

Hospitality Unit Diagnosis - An Expert System Approach

Volume 2

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Appendix A.

Key Indicators of Performance in Hotels

- Quality of service. Methods of measurement include inspections, responses to guest questionnaires, study of complaint files and study of complimentary files.
- House profit before repairs and maintenance.
- Operating results compared to forecasts.
- Departmental results compared to last year.
- Number of rooms occupied.
- Percentage of room occupancy.
- Percentage of multiple occupancy.
- Average daily rate per room.
- Number of times average rate earned.
- Total covers served.
- Covers served per paying overnight guest per out let.
- Covers or rooms serviced per employee day: total, by outlet, By production area or other.
- Average check: per cover by outlet, per meal period.
- Comparison of operating results with economic indicators or price level or currency exchange; adjusted indices for the country, city.
- Sales growth by category. Rooms sales total and subdivided by category; conferences; food and beverages; outside catering; shops; swimming pool, etc.
- Sales growth by category compared to total sales.
- Sales by category and / or department compared to room sales.
- Contract sales by category: airlines, local companies, etc.
- Sales per outlet or on average employee per day basis.
- Accounts receivable to total credit revenue.
- Average collection period.
- Accounts written off as bad debts compared with charge sales.
- Effectiveness of manpower productivity control systems.
- Payroll percentage for the entire hotel and for each department.
- Waiting time at outlets for service.
- Total value of inventories.
- Inventory turnover, and trends in increases / decreases.
- Heat, light and power costs per occupied room.

Pizam, A., Lewis, R.C., Manning, P., "The practice of Hospitality Management." AOI Publishing Company Inc. Connecticut 1982.

Appendix B.

Key Financial Ratios

Profitability Ratios

Gross Profit Margin

$$\frac{\text{Sales} - \text{Cost of Sales}}{\text{Sales}}$$

Net profit Margin

$$\frac{\text{Profit before tax and Interest}}{\text{Sales}}$$

Return on total assets

$$\frac{\text{Profit after tax}}{\text{Total assets}}$$

Return on shareholders' funds

$$\frac{\text{Profit after taxes}}{\text{Total Shareholders' funds}}$$

Liquidity Ratios

Current ratio

$$\frac{\text{Current assets}}{\text{Current liabilities}}$$

Acid test ratio

$$\frac{\text{Current assets} - \text{stocks}}{\text{Current liabilities}}$$

Inventory to working capital

$$\frac{\text{Inventory (stock)}}{\text{Current assets} - \text{current liabilities}}$$

Debt to assets ratio

$$\frac{\text{Total debt}}{\text{Total Assets}}$$

Long term debt to equity ratio

$$\frac{\text{Long term debt}}{\text{Total shareholders' funds}}$$

Times interest earned

$$\frac{\text{Profit before tax and interest}}{\text{Total interest charges}}$$

Activity ratios

Stock turnover

$$\frac{\text{Cost of sales}}{\text{Stock}}$$

Fixed asset turnover

$$\frac{\text{Sales}}{\text{Fixed assets}}$$

Total asset turnover

$$\frac{\text{Sales}}{\text{Total assets}}$$

Average collection period

$$\frac{\text{Debtors} \times 365}{\text{Total sales}}$$

Investment Ratios

Dividend yield

$$\frac{\text{Annual dividend per share}}{\text{Current market price per share}}$$

Price earnings ratio

$$\frac{\text{Current market price per share}}{\text{Earnings per share}}$$

Appendix C.

Rule and Variable List
ESAD Top Level

RULE LIST

[1] anal avail	Sp
	IF	DO: Test Expression
	FAC[0]	[54] decrement fac score
AND		
	OR	DO: Test Expression
	FAC[1]	[54] decrement fac score
AND		
	OR	DO: Test Expression
	FAC[2]	[54] decrement fac score
AND		
	OR	DO: Test Expression
	FAC[3]	[54] decrement fac score
AND		
	OR	DO: Test Expression
	FAC[4]	[54] decrement fac score
AND		
	OR	DO: Test Expression
	FAC[5]	[54] decrement fac score
AND		
	OR	DO: Test Expression
	FAC[6]	[54] decrement fac score
AND		
	OR	DO: Test Expression
	FAC[7]	[54] decrement fac score
AND		
	OR	DO: Test Expression
	FAC[8]	[54] decrement fac score
AND		
	OR	DO: Test Expression
	FAC[9]	[54] decrement fac score
AND		
	OR	DO: Test Expression
	FAC[10]	[54] decrement fac score
AND		
	OR	DO: Test Expression
	FAC[11]	[54] decrement fac score
AND		
	OR	DO: Test Expression
	FAC[12]	[54] decrement fac score
AND		
	OR	DO: Test Expression
	FAC[13]	

AND [54] decrement fac score
 OR DO: Test Expression
 FAC[14]
 AND [54] decrement fac score
 OR DO: Succeed

[2] anal capital structure Sp

IF DO: Test Expression
 CAP_STRUC=2
 AND DO: Assign Variable
 score:=score+50
 OR DO: Test Expression
 CAP_STRUC=3
 AND DO: Assign Variable
 score:=score+75
 OR DO: Test Expression
 CAP_STRUC=4
 AND DO: Assign Variable
 score:=score+100
 OR DO: Succeed

[3] anal cashflow Sp

IF DO: Test Expression
 cashflow=2
 AND DO: Assign Variable
 score:=score+50
 OR DO: Test Expression
 cashflow=3
 AND DO: Assign Variable
 score:=score+75
 OR DO: Test Expression
 cashflow=4
 AND DO: Assign Variable
 score:=score+100
 OR DO: Succeed

[4] anal competitors price Sp

IF DO: Test Expression
 comp_price=1
 AND DO: Assign Variable
 score:=score+75
 OR DO: Test Expression
 comp_price=3

AND DO: Assign Variable
score:=score+75

OR DO: Test Expression
comp_price=4

AND DO: Assign Variable
score:=score+100

OR DO: Succeed

[5] anal computerisation

Sp

IF DO: Test Expression
comput=2

AND DO: Assign Variable
score:=score+75

OR DO: Test Expression
comput=3

AND DO: Assign Variable
score:=score+100

OR DO: Succeed

[6] anal conditions of premises

Sp

IF DO: Test Expression
Prem_cond=2

AND DO: Assign Variable
score:=score+50

OR DO: Test Expression
Prem_cond=1

AND DO: Assign Variable
score:=score+75

OR DO: Test Expression
Prem_cond=4

AND DO: Assign Variable
score:=score+100

OR DO: Succeed

[7] anal costs

Sp

IF DO: Test Expression
costs=2

AND DO: Assign Variable
score:=score+50

OR DO: Test Expression
costs=1

AND DO: Assign Variable
score:=score+75

OR DO: Test Expression

```

costs=4
AND      DO: Assign Variable
score:=score+100

OR      DO: Succeed

```

[8] anal customer satisfaction Sp

```

IF      DO: Test Expression
cus_sat=2
AND      DO: Assign Variable
score:=score+50

OR      DO: Test Expression
cus_sat=3
AND      DO: Assign Variable
score:=score+75

OR      DO: Test Expression
cus_sat=4
AND      DO: Assign Variable
score:=score+100

OR      DO: Succeed

```

[9] anal decrease

```

IF      DO: Test Expression
DS[0]
AND      [ 74] increment score

OR      DO: Test Expression
DS[1]
AND      [ 74] increment score

OR      DO: Test Expression
DS[2]
AND      [ 74] increment score

OR      DO: Test Expression
DS[3]
AND      [ 74] increment score

OR      DO: Test Expression
DS[4]
AND      [ 74] increment score

OR      DO: Succeed

```

[10] anal facilities

Sp

+ IF [1] anal avail
AND [28] anal unavail

[11] anal fixed asset utilisation

Sp

IF DO: Test Expression
fa_util=2
AND DO: Assign Variable
score:=score+50

OR DO: Test Expression
fa_util=3
AND DO: Assign Variable
score:=score+75

OR DO: Test Expression
fa_util=4
AND DO: Assign Variable
score:=score+75

OR DO: Succeed

[12] anal grade

Sp

IF DO: Test Expression
grade=2
AND DO: Assign Variable
score:=score+25

OR DO: Test Expression
grade=3
AND DO: Assign Variable
score:=score+50

OR DO: Test Expression
grade=4
AND DO: Assign Variable
score:=score+75

OR DO: Test Expression
grade=5
AND DO: Assign Variable
score:=score+100

OR DO: Succeed

[13] anal increase

Sp

IF DO: Test Expression
IS[0]
AND [55] decrement score

OR DO: Test Expression
IS[1]

AND		[55] decrement score
OR		DO: Test Expression
	IS[2]	
AND		[55] decrement score
OR		DO: Test Expression
	IS[3]	
AND		[55] decrement score
OR		DO: Test Expression
	IS[4]	
AND		[55] decrement score
OR		DO: Succeed

[14] anal inventory

Sp

IF		DO: Test Expression
	inventory=3	
AND		DO: Assign Variable
	score:=score+75	
OR		DO: Test Expression
	inventory=1	
AND		DO: Assign Variable
	score:=score+75	
OR		DO: Test Expression
	inventory=4	
AND		DO: Assign Variable
	score:=score+100	
OR		DO: Succeed

[15] anal liquidity

Sp

IF		DO: Test Expression
	Liquidity=2	
AND		DO: Assign Variable
	score:=score+50	
OR		DO: Test Expression
	Liquidity=3	
AND		DO: Assign Variable
	score:=score+75	
OR		DO: Test Expression
	Liquidity=4	
AND		DO: Assign Variable
	score:=score+100	
OR		DO: Succeed

[16] anal management turnover

Sp

IF DO: Test Expression
mgmt_turn=2
AND DO: Assign Variable
score:=score+75

OR DO: Test Expression
mgmt_turn=3
AND DO: Assign Variable
score:=score+100

OR DO: Succeed

[17] anal market share

Sp

IF DO: Test Expression
mkt_share=2
AND DO: Assign Variable
score:=score+50

OR DO: Test Expression
mkt_share=3
AND DO: Assign Variable
score:=score+75

OR DO: Test Expression
mkt_share=4
AND DO: Assign Variable
score:=score+100

OR DO: Succeed

[18] anal mis utilisation

Sp

IF DO: Test Expression
mis=2
AND DO: Assign Variable
score:=score+75

OR DO: Test Expression
mis=3
AND DO: Assign Variable
score:=score+100

OR DO: Succeed

[19] anal morale

Sp

IF DO: Test Expression
morale=2
AND DO: Assign Variable
score:=score+50

OR DO: Test Expression
morale=3

AND DO: Assign Variable
 score:=score+75

 OR DO: Test Expression
 morale=4
 AND DO: Assign Variable
 score:=score+100

 OR DO: Succeed

[20] anal orientation

Sp

IF DO: Test Expression
 ORIENT=4
 AND DO: Assign Variable
 score:=score+75

 OR DO: Test Expression
 ORIENT=2
 AND DO: Assign Variable
 score:=score+50

 OR DO: Test Expression
 ORIENT=3
 AND DO: Assign Variable
 score:=score+75

 OR DO: Test Expression
 ORIENT=5
 AND DO: Assign Variable
 score:=score+100

 OR DO: Succeed

[21] anal profit margin

Sp

IF DO: Test Expression
 margins=2
 AND DO: Assign Variable
 score:=score+50

 OR DO: Test Expression
 margins=3
 AND DO: Assign Variable
 score:=score+75

 OR DO: Test Expression
 margins=4
 AND DO: Assign Variable
 score:=score+100

 OR DO: Succeed

[22] anal return on investment

Sp

IF DO: Test Expression
 ROI=2
AND DO: Assign Variable
 score:=score+50

OR DO: Test Expression
 ROI=3
AND DO: Assign Variable
 score:=score+75

OR DO: Test Expression
 ROI=4
AND DO: Assign Variable
 score:=score+100

OR DO: Succeed

[23] anal sales

Sp

+ **IF** [13] anal increase
AND [9] anal decrease

OR DO: Succeed

[24] anal staff productivity

Sp

IF DO: Test Expression
 PROD=2
AND DO: Assign Variable
 score:=score+50

OR DO: Test Expression
 PROD=1
AND DO: Assign Variable
 score:=score+75

OR DO: Test Expression
 PROD=4
AND DO: Assign Variable
 score:=score+100

OR DO: Succeed

[25] anal staff turnover

Sp

IF DO: Test Expression
 staff_turn=2
AND DO: Assign Variable
 score:=score+75

OR DO: Test Expression
 staff_turn=3
AND DO: Assign Variable
 score:=score+100

OR DO: Succeed

[26] anal strategic planning

Sp

IF DO: Test Expression
strat_plan=2
AND DO: Assign Variable
score:=score+75

OR DO: Test Expression
strat_plan=3
AND DO: Assign Variable
score:=score+100

OR DO: Succeed

[27] anal target market

Sp

IF DO: Test Expression
target_mkt=2
AND DO: Assign Variable
score:=score+75

OR DO: Test Expression
target_mkt=3
AND DO: Assign Variable
score:=score+100

OR DO: Succeed

[28] anal unavail

IF DO: Test Expression
FAC[0]=0
AND [73] increment fac score

OR DO: Test Expression
FAC[1]=0
AND [73] increment fac score

OR DO: Test Expression
FAC[2]=0
AND [73] increment fac score

OR DO: Test Expression
FAC[3]=0
AND [73] increment fac score

OR DO: Test Expression
FAC[4]=0
AND [73] increment fac score

OR DO: Test Expression
FAC[5]=0
AND [73] increment fac score


```

OR          DO: Test Expression
FAC[6]=0
AND         [ 73] increment fac score

OR          DO: Test Expression
FAC[7]=0
AND         [ 73] increment fac score

OR          DO: Test Expression
FAC[8]=0
AND         [ 73] increment fac score

OR          DO: Test Expression
FAC[9]=0
AND         [ 73] increment fac score

OR          DO: Test Expression
FAC[10]=0
AND         [ 73] increment fac score

OR          DO: Test Expression
FAC[11]=0
AND         [ 73] increment fac score

OR          DO: Test Expression
FAC[12]=0
AND         [ 73] increment fac score

OR          DO: Test Expression
FAC[13]=0
AND         [ 73] increment fac score

OR          DO: Test Expression
FAC[14]=0
AND         [ 73] increment fac score

```

[29] Analyse Decrease in sales

Sp

```

F IF          DO: Menu Question DSALES

AND          DO: Test Expression
DSALES<6

AND          DO: Assign Variable
DS[DSALES-1]:=!DS[DSALES-1]

AND          DO: Restart Rule

OR           DO: Succeed

```

[30] Analyse Increase in sales

Sp

```

F IF          DO: Menu Question ISALES

AND          DO: Test Expression
ISALES<6

AND          DO: Assign Variable

```

	IS[ISALES-1]:=!IS[ISALES-1]
AND	DO: Restart Rule
OR	DO: Succeed

[31] apply the answers to the functions **Sp**

IF	DO: Begin Explain
AND	[76] initialisation
AND	[45] check sales/marketing
AND	[42] check finance
AND	[43] check operations
AND	[44] check personnel
AND	[41] Check control

[32] Ask for level 1 problem

F IF	DO: Display Form
W AND	DO: Menu Question lev_1
AND	[70] Go to module

[33] Autosave **Sp**

IF	DO: Test Expression
	export("primary.dat")

[34] AVERAGE CONTROL SCORE **Sp**

IF	DO: Assign Variable
	rules:=5
AND	DO: Assign Variable
	score:=score/rules

[35] AVERAGE FINANCE SCORE **Sp**

IF	DO: Assign Variable
	rules:=5
AND	DO: Assign Variable
	score:=score/rules

[36] AVERAGE OPERATIONS SCORE **Sp**

IF	DO: Assign Variable
	rules:=5
AND	DO: Assign Variable
	score:=score/rules

[37] AVERAGE PERSONNEL SCORE **Sp**

IF	DO: Assign Variable
----	---------------------

rules:=4
AND DO: Assign Variable
score:=score/rules

[38] AVERAGE S/M SCORE Sp

IF DO: Assign Variable
rules:=6
AND DO: Assign Variable
score:=score/rules

[39] CAPITAL STRUCTURE Sp

IF DO: Menu Question CAP_STRUC

[40] Cashflow Sp

IF DO: Menu Question cashflow

[41] Check control Sp

+ IF [77] initialize score
AND [21] anal profit margin
AND [14] anal inventory
AND [7] anal costs
AND [18] anal mis utilisation
AND [5] anal computerisation
AND [34] AVERAGE CONTROL SCORE
AND DO: Assign Variable
area\$:="Control"
AND DO: Assign Variable
areano:=5
AND [142] update array

[42] check finance Sp

+ IF [77] initialize score
AND [22] anal return on investment
AND [11] anal fixed asset utilisation
AND [15] anal liquidity
AND [2] anal capital structure
AND [3] anal cashflow
AND [35] AVERAGE FINANCE SCORE
AND DO: Assign Variable
area\$:="Finance"
AND DO: Assign Variable
areano:=2
AND [142] update array

[43] check operations Sp

+ IF [77] initialize score
AND [6] anal conditions of premises
AND [12] anal grade

```

AND          [ 8] anal customer satisfaction
AND          [ 26] anal strategic planning
AND          [ 10] anal facilities
AND          [ 36] AVERAGE OPERATIONS SCORE
  AND        DO: Assign Variable
            area$:="Operations"
  AND        DO: Assign Variable
            areano:=3
AND          [ 142] update array

```

[44] check personnel **Sp**

```

+ IF          [ 77] initialize score
AND          [ 25] anal staff turnover
AND          [ 16] anal management turnover
AND          [ 24] anal staff productivity
AND          [ 19] anal morale
AND          [ 37] AVERAGE PERSONNEL SCORE
AND          DO: Assign Variable
            area$:="Personnel"
AND          DO: Assign Variable
            areano:=4
AND          [ 142] update array

```

[45] check sales/marketing **Sp**

```

+ IF          [ 77] initialize score
AND          [ 23] anal sales
AND          [ 20] anal orientation
AND          [ 17] anal market share
AND          [ 4] anal competitors price
AND          [ 27] anal target market
AND          [ 38] AVERAGE S/M SCORE
AND          DO: Assign Variable
            area$:="Sales/Marketing"
AND          DO: Assign Variable
            areano:=1
AND          [ 142] update array

```

[46] CLEAR ERROR FLAG **Sp**

```

IF          DO: Test Expression
            errclr()

```

[47] CLOSE FILE **Sp**

```

+ IF          [ 133] SWITCH ERRORS OFF
AND          DO: Test Expression
            LTfclose()
AND          [ 134] SWITCH ERRORS ON

```

[48] Company Adviser	Sp
+ IF	[78] Introduction
AND	[87] Main Menu
AND	[61] Expert chooses
AND	[144] User Suggests
AND	[100] Quit Session
AND	DO: Restart Rule
[49] Competitor Pricing	Sp
IF	DO: Menu Question comp_price
[50] Computerisation	Sp
IF	DO: Menu Question comput
[51] CONTROL	Sp
IF	DO: Display Form
AND	[99] Profit Margin
AND	[79] Inventory
AND	[52] Costs
AND	[90] MIS utilisation
AND	[50] Computerisation
[52] Costs	Sp
IF	DO: Menu Question costs
[53] Customer satisfaction	Sp
IF	DO: Menu Question cus_sat
[54] decrement fac score	Sp
IF	DO: Assign Variable
	score:=score-7
[55] decrement score	Sp
IF	DO: Assign Variable
	score:=score-20
AND	DO: Fail
[56] determine the next step	Sp
+ IF	[143] user selects from the "what-next" menu
AND	DO: Test Expression
	next=1
AND	[67] FURTHER ANALYSE AREA
OR	DO: Test Expression
	next=2
AND	[57] display the areas and get the user to choose

AND DO: Assign Variable
 next:=2
 AND DO: Restart Rule

 OR DO: Test Expression
 next=3
 AND DO: Global Restart

[57] display the areas and get the user to choose Sp

IF DO: Assign Variable
 selarea\$:=""
 F AND DO: Menu Question selarea\$

[58] display the array Sp

F IF DO: View Form

[59] END DATA COLLECTION

+ IF [127] show the data which has been read

[60] Esad takes control Sp

IF DO: Test Expression
 Main=1

[61] Expert chooses Sp

+ IF [60] Esad takes control
 AND [68] GET ANALYSIS DATA
 AND [33] Autosave
 AND [31] apply the answers to the functions
 AND [141] then display the results

 OR DO: Succeed

[62] explain it Sp

+ IF [147] wait until data is required
 AND DO: Test Expression
 page_number<4
 AND DO: Restart Rule

 OR DO: Test Expression
 page_number=4
 AND DO: Succeed

 OR DO: Fail

[63] Facilities **Sp**
F IF DO: Menu Question FACILITY

AND DO: Test Expression
FACILITY<16
AND DO: Assign Variable
FAC[FACILITY-1]:=!FAC[FACILITY-1]
AND DO: Restart Rule

OR DO: Succeed

[64] File exists **Sp**
IF DO: Test Expression
beep(524,4)
AND DO: Menu Question exists\$
AND DO: Test Expression
start("cont",exists\$)

OR DO: Test Expression
start("Rename",exists\$)
AND DO: Display Form

AND DO: Test Expression
exists(file\$+".esa")
AND DO: Restart Rule
AND DO: Succeed

OR DO: Test Expression
start("Cancel",exists\$)
AND DO: Quit

[65] FINANCIAL **Sp**
W IF DO: Display Form
AND [116] RETURN ON INVESTMENT
AND [66] Fixed Asset utilisation
AND [80] Liquidity
AND [39] CAPITAL STRUCTURE
AND [40] Cashflow

[66] **Fixed Asset utilisation** **Sp**
W IF DO: Menu Question fa_util

[67] **FURTHER ANALYSE AREA** **Sp**

IF DO: Test Expression
selarea\$="SALES/MARKETING"
AND [85] Load SALES/MARKETING MODULE

OR DO: Test Expression
selarea\$="Control"
AND [81] Load CONTROL MODULE

OR DO: Test Expression
selarea\$="Finance"
AND [82] Load FINANCE MODULE

OR DO: Test Expression
selarea\$="Operations"
AND [83] Load OPERATIONS MODULE

OR DO: Test Expression
selarea\$="Personnel"
AND [84] Load PERSONNEL MODULE

[68] **GET ANALYSIS DATA** **Sp**

+ IF [93] NEW FILE / OLD FILE
AND [106] READ FINANCIAL ANALYSIS DATA
AND [131] START NEW ANALYSIS MANUAL DATA ENTRY
AND [119] SAVE DATA

+ OR [115] RESUME SESSION

[69] **Get file name** **Sp**

IF DO: Display Form

AND [137] Test for file
AND DO: Test Expression
export(file\$+".esa")

[70] **Go to module**

IF DO: Test Expression
lev_1=1
AND [85] Load SALES/MARKETING MODULE

OR DO: Test Expression
lev_1=2
AND [82] Load FINANCE MODULE

OR DO: Test Expression
lev_1=3
AND [83] Load OPERATIONS MODULE

OR DO: Test Expression


```

lev_1=4
AND      [ 81] Load CONTROL MODULE

OR      DO: Test Expression
lev_1=5
AND      [ 84] Load PERSONNEL MODULE

OR      DO: Fail

```

```

[ 71] Grade                               Sp
IF      DO: Menu Question grade

```

```

[ 72] Import file                         Sp
IF      DO: Test Expression
        dir(ex$[#], "*.esa", 0)
AND     DO: Test Expression
        sort1(ex$[#], 0)
AND     DO: Menu Question file$
AND     DO: Test Expression
        !(start("Some other", file$))
AND     DO: Test Expression
        import(file$+".esa")

OR      DO: Assign Variable
        file$:=""
AND     DO: Display Form

AND     DO: Test Expression
        import(file$+".esa")

OR      DO: Global Restart

```

```

[ 73] increment fac score                 Sp
IF      DO: Assign Variable
        score:=score+7

```

```

[ 74] increment score
IF      DO: Assign Variable
        score:=score+20
AND     DO: Fail

```

```

[ 75] Init
IF      DO: Test Expression
        arrclr(arr1$[#])
AND     DO: Assign Variable
        i1$:=" EXPERT SYSTEM BASED"
AND     DO: Assign Variable
        i2$:="ANALYSIS AND DIAGNOSIS"

```

AND DO: Assign Variable
I:=0

[76] initialisation Sp

IF DO: Test Expression
arrclr(areaname\$[#])
AND DO: Test Expression
arrclr(areascore[#, #])
AND DO: Assign Variable
areaname\$[0]:=" "
AND DO: Assign Variable
areascore[0,0]:=0
AND DO: Assign Variable
areascore[0,1]:=1000

[77] initialize score Sp

IF DO: Assign Variable
score:=0
AND DO: Assign Variable
rules:=0

[78] Introduction Sp

IF DO: Init. Variables
AND DO: End Explain
AND [86] Logo

OR DO: Succeed

[79] Inventory Sp

IF DO: Menu Question inventory

[80] Liquidity Sp

IF DO: Menu Question Liquidity

[81] Load CONTROL MODULE

IF DO: Test Expression
exists("CONTROL.KB")
AND DO: Test Expression
load("CONTROL")

OR DO: Test Expression
beep(523,4)
AND DO: Display Form
AND DO: Fail

[82] Load FINANCE MODULE

IF DO: Test Expression
exists("FINANCE.KB")
AND DO: Test Expression
load("FINANCE")

OR DO: Test Expression
beep(523,4)
AND DO: Display Form

AND DO: Fail

[83] Load OPERATIONS MODULE

Sp

IF DO: Test Expression
exists("OPER.KB")
AND DO: Test Expression
load("OPER")

OR DO: Test Expression
beep(523,4)
AND DO: Display Form

AND DO: Fail

[84] Load PERSONNEL MODULE

IF DO: Test Expression
exists("PERSON.KB")
AND DO: Test Expression
load("PERSON")

OR DO: Test Expression
beep(523,4)
AND DO: Display Form

[85] Load SALES/MARKETING MODULE

IF DO: Test Expression
exists("MKTING.KB")
AND DO: Test Expression
load("MKTING")

OR DO: Test Expression
beep(523,4)
AND DO: Display Form

AND DO: Fail

[86] Logo

+ IF [75] Init
AND [122] Set line to next spot in array
AND DO: View Form

AND DO: Restart Rule

OR DO: Display Form

AND DO: Display Form

[87] Main Menu Sp

IF DO: Init. Variables

AND DO: Menu Question Main

AND DO: Test Expression

Main=3

AND DO: Quit

OR DO: Succeed

[88] Management Turnover Sp

IF DO: Menu Question mgmt_turn

[89] Market Share Sp

IF DO: Menu Question mkt_share

[90] MIS utilisation Sp

IF DO: Menu Question mis

[91] MONTH DATA

IF DO: Menu Question MONTH

[92] Morale Sp

IF DO: Menu Question morale

[93] NEW FILE / OLD FILE Sp

IF DO: Menu Question FILE

[94] OPEN FILE

+ IF [47] CLOSE FILE

AND DO: Test Expression

LTflopen("a:\sheets\data.wk1")

OR DO: Display Form

AND DO: Quit

[95] OPERATIONAL **Sp**

IF DO: Display Form
+ AND [98] Premises condition
AND [63] Facilities
AND [53] Customer satisfaction
AND [132] Strategic Planning
AND [71] Grade

[96] Orientation **Sp**

IF DO: Menu Question ORIENT

[97] PERSONNEL **Sp**

IF DO: Display Form

AND [130] Staff turnover
AND [88] Management Turnover
AND [129] Staff productivity
AND [92] Morale

[98] Premises condition **Sp**

IF DO: Menu Question Prem_cond

[99] Profit Margin **Sp**

IF DO: Menu Question margins

[100] Quit Session **Sp**

+ IF [139] test for quit
AND DO: Menu Question save\$

AND DO: Test Expression
start("save",save\$)
AND [121] Save sessions

OR DO: Test Expression
start("retu",save\$)
AND DO: Succeed

OR DO: Test Expression
start("quit",save\$)
AND DO: Quit

[101] READ APRIL/MAY DATA

```
IF          DO: Test Expression
    LTrngload("A",2,"B",31)
AND         DO: Test Expression
    LTarrread(HEAD$[#, #])
AND         DO: Test Expression
    LTrngload("F",2,"F",31)
AND         DO: Test Expression
    LTarrread(fig1[#, #])
AND         DO: Test Expression
    LTrngload("G",2,"G",31)
AND         DO: Test Expression
    LTarrread(fig2[#, #])
```

[102] READ AUGUST/SEPTEMBER DATA

```
IF          DO: Test Expression
    LTrngload("A",2,"B",31)
AND         DO: Test Expression
    LTarrread(HEAD$[#, #])
AND         DO: Test Expression
    LTrngload("J",2,"J",31)
AND         DO: Test Expression
    LTarrread(fig1[#, #])
AND         DO: Test Expression
    LTrngload("K",2,"K",31)
AND         DO: Test Expression
    LTarrread(fig2[#, #])
```

[103] READ DATA

```
IF          DO: Test Expression
    MONTH=1
AND         [ 112] READ NOVEMBER/DECEMBER DATA

OR          DO: Test Expression
    MONTH=3
AND         [ 104] READ DECEMBER/JANUARY DATA

OR          DO: Test Expression
    MONTH=5
AND         [ 107] READ JANUARY/FEBRUARY DATA

OR          DO: Test Expression
    MONTH=7
AND         [ 105] READ FEBRUARY/MARCH DATA

OR          DO: Test Expression
    MONTH=9
AND         [ 110] READ MARCH/APRIL DATA

OR          DO: Test Expression
    MONTH=11
AND         [ 101] READ APRIL/MAY DATA

OR          DO: Test Expression
```

```

MONTH=2
AND      [ 111] READ MAY/JUNE DATA

OR      DO: Test Expression
MONTH=4
AND      [ 109] READ JUNE/JULY DATA

OR      DO: Test Expression
MONTH=6
AND      [ 108] READ JULY/AUGUST DATA

OR      DO: Test Expression
MONTH=8
AND      [ 102] READ AUGUST/SEPTEMBER DATA

OR      DO: Test Expression
MONTH=10
AND      [ 114] READ SEPTEMBER/OCTOBER DATA

OR      DO: Test Expression
MONTH=12
AND      [ 113] READ OCTOBER/NOVEMBER DATA

```

[104] READ DECEMBER/JANUARY DATA

```

IF      DO: Test Expression
      LTrngload("A",2,"B",31)
AND     DO: Test Expression
      LTarread(HEAD$[#, #])
AND     DO: Test Expression
      LTrngload("N",2,"N",31)
AND     DO: Test Expression
      LTarread(fig1[#, #])
AND     DO: Test Expression
      LTrngload("C",2,"C",31)
AND     DO: Test Expression
      LTarread(fig2[#, #])

```

[105] READ FEBRUARY/MARCH DATA

```

IF      DO: Test Expression
      LTrngload("A",2,"B",31)
AND     DO: Test Expression
      LTarread(HEAD$[#, #])
AND     DO: Test Expression
      LTrngload("D",2,"D",31)
AND     DO: Test Expression
      LTarread(fig1[#, #])
AND     DO: Test Expression
      LTrngload("E",2,"E",31)
AND     DO: Test Expression
      LTarread(fig2[#, #])

```

[106] READ FINANCIAL ANALYSIS DATA

```

+ IF      [ 138] TEST FOR NEW FILE

```

Sp

```

AND          [ 146] VERIF Y INTERFACE
AND          [ 94] OPEN FILE
AND          [ 91] MONTH DATA
AND          [ 103] READ DATA
+ AND        [ 59] END DATA COLLECTION

```

[107] READ JANUARY/FEBRUARY DATA

```

IF            DO: Test Expression
              LTrmgload("A",2,"B",31)
AND           DO: Test Expression
              LTarread(HEAD$[#, #])
AND           DO: Test Expression
              LTrmgload("C",2,"C",31)
AND           DO: Test Expression
              LTarread(fig1[#, #])
AND           DO: Test Expression
              LTrmgload("D",2,"D",31)
AND           arrread(fig2[#, #])

```

[108] READ JULY/AUGUST DATA

```

IF            DO: Test Expression
              LTrmgload("A",2,"B",31)
AND           DO: Test Expression
              LTarread(HEAD$[#, #])
AND           DO: Test Expression
              LTrmgload("I",2,"I",31)
AND           DO: Test Expression
              LTarread(fig1[#, #])
AND           DO: Test Expression
              LTrmgload("J",2,"J",31)
AND           DO: Test Expression
              LTarread(fig2[#, #])

```

[109] READ JUNE/JULY DATA

```

IF            DO: Test Expression
              LTrmgload("A",2,"B",31)
AND           DO: Test Expression
              LTarread(HEAD$[#, #])
AND           DO: Test Expression
              LTrmgload("H",2,"H",31)
AND           arrread(fig1[#, #])
AND           DO: Test Expression
              LTrmgload("I",2,"I",31)
AND           DO: Test Expression
              LTarread(fig2[#, #])

```

[110] READ MARCH/APRIL DATA

```

IF            DO: Test Expression
              LTrmgload("A",2,"B",31)
AND           DO: Test Expression

```



```

                                LTarrread(HEAD$[#, #])
AND                                DO: Test Expression
                                LTmgload("E",2,"E",31)
AND                                DO: Test Expression
                                LTarrread(fig1[#, #])
AND                                DO: Test Expression
                                LTmgload("F",2,"F",31)
AND                                DO: Test Expression
                                LTarrread(fig2[#, #])

```

[111] READ MAY/JUNE DATA

```

IF                                DO: Test Expression
                                LTmgload("A",2,"B",31)
AND                                DO: Test Expression
                                LTarrread(HEAD$[#, #])
AND                                DO: Test Expression
                                LTmgload("G",2,"G",31)
AND                                DO: Test Expression
                                LTarrread(fig1[#, #])
AND                                DO: Test Expression
                                LTmgload("H",2,"H",31)
AND                                DO: Test Expression
                                LTarrread(fig2[#, #])

```

[112] READ NOVEMBER/DECEMBER DATA

```

IF                                DO: Test Expression
                                LTmgload("A",2,"B",31)
AND                                DO: Test Expression
                                LTarrread(HEAD$[#, #])
AND                                DO: Test Expression
                                LTmgload("M",2,"M",31)
AND                                DO: Test Expression
                                LTarrread(fig1[#, #])
AND                                DO: Test Expression
                                LTmgload("N",2,"N",31)
AND                                DO: Test Expression
                                LTarrread(fig2[#, #])

```

[113] READ OCTOBER/NOVEMBER DATA

```

IF                                DO: Test Expression
                                LTmgload("A",2,"B",31)
AND                                DO: Test Expression
                                LTarrread(HEAD$[#, #])
AND                                DO: Test Expression
                                LTmgload("L",2,"L",31)
AND                                DO: Test Expression
                                LTarrread(fig1[#, #])
AND                                DO: Test Expression
                                LTmgload("M",2,"M",31)
AND                                DO: Test Expression
                                LTarrread(fig2[#, #])

```

[114] READ SEPTEMBER/OCTOBER DATA

IF DO: Test Expression
LTrngload("A",2,"B",31)
AND DO: Test Expression
LTarread(HEAD\$[#,#])
AND DO: Test Expression
LTrngload("K",2,"K",31)
AND DO: Test Expression
LTarread(fig1[#,#])
AND DO: Test Expression
LTrngload("L",2,"L",31)
AND DO: Test Expression
LTarread(fig2[#,#])

[115] RESUME SESSION

Sp

+ IF [140] TEST FOR RESUME
AND [72] Import file

OR DO: Fail

[116] RETURN ON INVESTMENT

Sp

F IF DO: Menu Question ROI

[117] Sales

Sp

+ IF [30] Analyse Increase in sales
AND [29] Analyse Decrease in sales
AND DO: Test Expression
IS[0]
AND DO: Test Expression
DS[0]
AND DO: Test Expression
beep(524,4)
AND DO: Display Form
AND DO: Restart Rule

OR DO: Test Expression
IS[1]
AND DO: Test Expression
DS[1]
AND DO: Test Expression
beep(524,4)
AND DO: Display Form

AND DO: Restart Rule

OR DO: Test Expression
IS[2]
AND DO: Test Expression
DS[2]
AND DO: Test Expression

beep(524,4)
 AND DO: Display Form
 AND DO: Restart Rule

 OR DO: Test Expression
 IS[3]
 AND DO: Test Expression
 DS[3]
 AND DO: Test Expression
 beep(524,4)
 AND DO: Display Form

 AND DO: Restart Rule

 OR DO: Test Expression
 IS[4]
 AND DO: Test Expression
 DS[4]
 AND DO: Test Expression
 beep(524,4)
 AND DO: Display Form
 AND DO: Restart Rule

 OR DO: Succeed

[118] SALES/MARKETING

Sp

IF DO: Display Form
 AND [96] Orientation
 AND [117] Sales
 AND [89] Market Share
 AND [49] Competitor Pricing
 AND [135] Target market

[119] SAVE DATA

Sp

IF DO: Menu Question quick_save
 + AND [120] Save session
 AND DO: Fail

 OR DO: Succeed

[120] Save session

Sp

IF DO: Test Expression
 quick_save=1
 AND [69] Get file name

[121] Save sessions

Sp

+ IF [69] Get file name
 AND DO: Quit

[122] Set line to next spot in array **Sp**

```
IF          DO: Test Expression
    I<10
    AND      DO: Test Expression
        arrclr(arr1$[#])
    AND      DO: Assign Variable
        arr1$[10-I]:=11$
    AND      DO: Assign Variable
        arr1$[11-I]:=12$
    AND      DO: Assign Variable
        I:=I+1
```

[123] Show main_menu **Sp**

```
IF          DO: Menu Question main_menu

    AND      DO: Test Expression
        main_menu=1
    AND      DO: Assign Variable
        page_number:=1
    AND      DO: Assign Variable
        page1_menu:=1
    AND      DO: Assign Variable
        page2_menu:=1
    AND      DO: Assign Variable
        page3_menu:=1

OR          DO: Fail
```

[124] Show Page 1 **Sp**

```
IF          DO: Test Expression
    window(6,10,15,41)
    AND      DO: Menu Question page1_menu

    AND      DO: Test Expression
        page1_menu=1
    AND      DO: Assign Variable
        page_number:=page_number+1

OR          DO: Assign Variable
    page_number:=page_number-1
```

[125] Show page 2 **Sp**

```
IF          DO: Test Expression
    window(9,24,18,55)
    AND      DO: Menu Question page2_menu

    AND      DO: Test Expression
        page2_menu=1
    AND      DO: Assign Variable
        page_number:=page_number+1
```

OR DO: Assign Variable
page_number:=page_number-1

[126] Show page 3 Sp

IF DO: Test Expression
window(12,38,21,69)
AND DO: Menu Question page3_menu

AND DO: Test Expression
page3_menu=1
AND DO: Assign Variable
page_number:=page_number+1

OR DO: Assign Variable
page_number:=page_number-1

[127] show the data which has been read Sp

IF DO: Assign Variable
page_number:=0
AND [62] explain it
OR DO: Fail

[128] sort the array Sp

IF DO: Test Expression
sort2(areascor[e[#,#],1,1,1)
OR DO: Succeed

[129] Staff productivity Sp

IF DO: Menu Question PROD

[130] Staff turnover Sp

IF DO: Menu Question staff_turn

[131] START NEW ANALYSIS MANUAL DATA ENTRY Sp

+ IF [118] SALES/MARKETING
AND [95] OPERATIONAL
AND [97] PERSONNEL
AND [65] FINANCIAL
AND [51] CONTROL

[132] **Strategic Planning** **Sp**
IF DO: Menu Question strat_plan

[133] **SWITCH ERRORS OFF**
IF DO: Test Expression
erroff()

[134] **SWITCH ERRORS ON**
IF DO: Test Expression
erron()

[135] **Target market** **Sp**
IF DO: Menu Question target_mkt

[136] **TEST ERROR FLAG** **Sp**
IF DO: Test Expression
errok()

[137] **Test for file** **Sp**
IF DO: Test Expression
exists(file\$+".esa")
AND [64] File exists
OR DO: Succeed

[138] **TEST FOR NEW FILE** **Sp**
IF DO: Test Expression
FILE=1

[139] **test for quit**
IF DO: Test Expression
Main=3

[140] **TEST FOR RESUME** **Sp**
IF DO: Test Expression
FILE=2

[141] **then display the results** **Sp**
+ IF [57] display the areas and get the user to choose
AND [56] determine the next step

[142] update array **Sp**

IF DO: Assign Variable
areaname\$[areano]:=area\$
AND DO: Assign Variable
areascore[areano,0]:=areano
AND DO: Assign Variable
areascore[areano,1]:=score
AND [128] sort the array
AND [58] display the array

[143] user selects from the "what-next" menu **Sp**

F IF DO: Menu Question next

[144] User Suggests **Sp**

+ IF [145] user will suggest
AND [32] Ask for level 1 problem

OR DO: Succeed

[145] user will suggest

IF DO: Test Expression
Main=2

[146] VERIFY INTERFACE

+ IF [46] CLEAR ERROR FLAG
AND DO: Test Expression
verIF y("lctr")
AND [136] TEST ERROR FLAG

OR DO: Display Form

AND DO: Quit

[147] wait until data is required **Sp**

IF DO: Test Expression
page_number=0
AND [123] Show main_menu

OR DO: Test Expression
page_number=1
AND [124] Show Page 1

OR DO: Test Expression

AND page_number=2
 [125] Show page 2

 OR DO: Test Expression
 AND page_number=3
 [126] Show page 3

VARIABLE LIST

[var] areaname\$[10]	
[var] areascore[10,10]	
[var] arr1\$[12]	
[var] CAP_STRUC	Ex
[var] cashflow	Ex
[var] comput	Ex
[var] comp_price	Ex
[var] costs	Ex
[var] cus_sat	Ex
[var] DS[5]	Ex
[var] ex\$[30]	
[var] FAC[15]	Ex
[var] fa_util	Ex
[var] fig1[1,30]	
[var] fig2[1,30]	
[var] grade	Ex
[var] HEADS\$[2,30]	
[var] inventory	Ex
[var] IS[5]	Ex
[var] Liquidity	Ex
[var] Main	Ex
[var] margins	Ex
[var] mgmt_turn	Ex
[var] mis	Ex

[var] mkt_share	Ex
[var] morale	Ex
[var] ORIENT	Ex
[var] Prem_cond	Ex
[var] PROD	Ex
[var] ROI	Ex
[var] staff_turn	Ex
[var] strat_plan	Ex
[var] target_mkt	Ex
[var] year	
VAL: (year>1900)&(year<1993)	

Appendix D.

Rule and Variable List
ESAD Marketing Level

Rule Listing

[1] adv evaluation

IF [90] evaluate score
AND DO: Display Form

[2] Advertising

Sp

IF DO: Menu Question mkt_com_2_2

AND DO: Test Expression
mkt_com_2_2=1
AND [3] advertising score
AND [1] adv evaluation
AND DO: Assign Variable
prob\$:="Advertising"
AND DO: Assign Variable
probno:=2
AND [278] update level 3 marketing communications array

OR DO: Test Expression
mkt_com_2_2=3
AND [106] initialise variables
AND [208] role of advertising
AND [62] control of the advertising activities
AND [273] the media we use
AND [36] calculate advertising score
AND [1] adv evaluation
AND DO: Assign Variable
prob\$:="Advertising"
AND DO: Assign Variable
probno:=2
AND [278] update level 3 marketing communications array

OR DO: Test Expression
mkt_com_2_2=2
AND [12] assign advertising score
AND [1] adv evaluation
AND DO: Assign Variable
prob\$:="Advertising"
AND DO: Assign Variable
probno:=2
AND [278] update level 3 marketing communications array

[3] advertising score

Sp

IF DO: Assign Variable
score:=0
AND DO: Assign Variable
adv_s:=0

[4] analyse field sales and distribution

Sp

IF DO: Menu Question fsd_2\$

AND DO: Test Expression
start("Management",fsd_2\$)

AND [258] test management of sales force
 AND DO: Restart Rule

 OR DO: Test Expression
 start("sales",fsd_2\$)
 AND [271] test sales support activities
 AND DO: Restart Rule

 OR DO: Test Expression
 start("distributi",fsd_2\$)
 AND [254] test distribution channel policies
 AND DO: Restart Rule

 OR DO: Test Expression
 start("quit",fsd_2\$)
 AND DO: Succeed

[5] analyse information Sp
 IF DO: Menu Question inf_2\$

AND DO: Test Expression
 start("studying",inf_2\$)
 AND [259] test market environment
 AND DO: Restart Rule

 OR DO: Test Expression
 start("searchin",inf_2\$)
 AND [255] test enhance mix
 AND DO: Restart Rule

 OR DO: Test Expression
 start("using",inf_2\$)
 AND [260] test market information
 AND DO: Restart Rule

 OR DO: Test Expression
 start("quit",inf_2\$)
 AND DO: Succeed

[6] analyse marketing communications Sp
 IF DO: Menu Question mkt_com_2\$

AND DO: Test Expression
 start("Public",mkt_com_2\$)
 AND [269] test public relations
 AND DO: Restart Rule

 OR DO: Test Expression
 start("advert",mkt_com_2\$)
 AND [253] test advertising
 AND DO: Restart Rule

 OR DO: Test Expression
 start("Public",mkt_com_2\$)
 AND [270] test sales promotion
 AND DO: Restart Rule

OR DO: Test Expression
start("quit",mkt_com_2\$)
AND DO: Succeed

[7] analyse orientation Sp
IF DO: Menu Question or_2\$
AND DO: Test Expression
start("Marketing Con",or_2\$)
AND [261] test marketing concept
AND DO: Restart Rule
OR DO: Test Expression
start("Marketing obj",or_2\$)
AND [262] test marketing objectives
AND DO: Restart Rule
OR DO: Test Expression
start("Marketing plan",or_2\$)
AND [263] test marketing planning
AND DO: Restart Rule
OR DO: Test Expression
start("quit",or_2\$)
AND DO: Succeed

[8] analyse pricing Strategy Sp
IF DO: Menu Question pric_strat_2\$
AND DO: Test Expression
start("Pricing",pric_strat_2\$)
AND [267] test pricing objectives
AND DO: Restart Rule
OR DO: Test Expression
start("Price s",pric_strat_2\$)
AND [266] test price setting
AND DO: Restart Rule
OR DO: Test Expression
start("Price c",pric_strat_2\$)
AND [265] test price changes and discounts
AND DO: Restart Rule
OR DO: Test Expression
tart("quit",pric_strat_2\$)
AND DO: Succeed

[9] analyse product strategy
IF DO: Menu Question prod_strat_2\$
AND DO: Test Expression

```

start("Performance",prod_strat_2$)
AND      [ 268] test product performance
AND      DO: Restart Rule

OR      DO: Test Expression
start("Viability",prod_strat_2$)
AND      [ 272] test viability of the range
AND      DO: Restart Rule

OR      DO: Test Expression
start("new product",prod_strat_2$)
AND      [ 264] test new product development
AND      DO: Restart Rule

OR      DO: Test Expression
start("quit",prod_strat_2$)
AND      DO: Succeed

```

```

[ 10] approach to price setting      Sp
IF      DO: Menu Question approach

AND      DO: Test Expression
approach=1

OR      DO: Test Expression
approach=2
AND      DO: Assign Variable
approach_s:=50

OR      DO: Test Expression
approach=3
AND      DO: Assign Variable
approach_s:=100

```

```

[ 11] Appropriate marketing planning procedure      Sp
IF      DO: Menu Question or_2_3
AND      DO: Test Expression
or_2_3=1
AND      [ 150] marketing planning score
AND      [ 169] planning evaluation
AND      DO: Assign Variable
prob$:="Appropriate marketing planning procedures"
AND      DO: Assign Variable
probno:=3
AND      [ 279] Update level 3 orientation array

OR      DO: Test Expression
or_2_3=3
AND      [ 106] initialise variables
AND      [ 159] objective setting process
AND      [ 149] marketing planning
AND      [ 152] marketing strategy
AND      [ 46] Calculate marketing planning score
AND      [ 169] planning evaluation
AND      DO: Assign Variable

```

```

        prob$:="Appropriate marketing planning procedures"
    AND      DO: Assign Variable
    probno:=3
    AND      [ 279] Update level 3 orientation array

    OR      DO: Test Expression
    or_2_3=2
    AND      [ 22] assign marketing planning score
    AND      [ 169] planning evaluation
    AND      DO: Assign Variable
    prob$:="Appropriate marketing planning procedures"
    AND      DO: Assign Variable
    probno:=3
    AND      [ 279] Update level 3 orientation array

```

[12] assign advertising score Sp

```

    IF      DO: Assign Variable
    score:=100
    AND      DO: Assign Variable
    adv_s:=100

```

[13] assign distribution channel policies score Sp

```

    IF      DO: Assign Variable
    score:=100
    AND      DO: Assign Variable
    dist_chan_s:=100

```

[14] assign enhance market mix score Sp

```

    IF      DO: Assign Variable
    score:=100
    AND      DO: Assign Variable
    enhance_mix_S:=100

```

[15] assign field sales and distribution score Sp

```

    IF      DO: Assign Variable
    score:=100

```

[16] assign information score Sp

```

    IF      DO: Assign Variable
    score:=100

```

[17] assign management of sales force score Sp

```

    IF      DO: Assign Variable
    score:=100
    AND      DO: Assign Variable
    mgmt_sales_s:=100

```

- [18] **assign market environment score** **Sp**
IF DO: Assign Variable
score:=100
AND DO: Assign Variable
mkt_environ_s:=100
- [19] **assign market information score** **Sp**
IF DO: Assign Variable
score:=100
AND DO: Assign Variable
mkt_info_s:=100
- [20] **assign marketing communication score** **Sp**
IF DO: Assign Variable
score:=100
- [21] **assign marketing concept score** **Sp**
IF DO: Assign Variable
score:=100
AND DO: Assign Variable
mkting_concept_s:=100
- [22] **assign marketing planning score** **Sp**
IF DO: Assign Variable
score:=100
AND DO: Assign Variable
mkt_plan_s:=100
- [23] **assign new product development score** **Sp**
IF DO: Assign Variable
score:=100
AND DO: Assign Variable
prod_dev_s:=100
- [24] **assign objectives score** **Sp**
IF DO: Assign Variable
score:=100
AND DO: Assign Variable
objectives_s:=100
- [25] **assign Orientation score** **Sp**
IF DO: Assign Variable
score:=100

- [26] **assign price change and discount score** **Sp**
 IF DO: Assign Variable
 score:=100
 AND DO: Assign Variable
 chnge_disc_s:=100
- [27] **assign price setting score** **Sp**
 IF DO: Assign Variable
 score:=100
 AND DO: Assign Variable
 price_set_s:=100
- [28] **assign pricing objectives score** **Sp**
 IF DO: Assign Variable
 score:=100
 AND DO: Assign Variable
 price_obj_s:=100
- [29] **assign pricing strategy score** **Sp**
 IF DO: Assign Variable
 score:=100
- [30] **assign product performance score** **Sp**
 IF DO: Assign Variable
 score:=100
 AND DO: Assign Variable
 prod_perf_s:=100
- [31] **assign product strategy score** **Sp**
 IF DO: Assign Variable
 score:=100
- [32] **assign public relations score** **Sp**
 IF DO: Assign Variable
 score:=100
 AND DO: Assign Variable
 pr_s:=100
- [33] **assign sales promotion score** **Sp**
 IF DO: Assign Variable
 score:=100
 AND DO: Assign Variable
 prom_s:=100

- [34] **assign sales support activities score** **Sp**
 IF DO: Assign Variable
 score:=100
 AND DO: Assign Variable
 sales_sup_s:=100
- [35] **assign viability score** **Sp**
 IF DO: Assign Variable
 score:=100
 AND DO: Assign Variable
 rng_viab_s:=100
- [36] **calculate advertising score** **Sp**
 IF DO: Assign Variable
 rules:=3
 AND DO: Assign Variable
 score:=(adv_role_s+adv_con_s+adv_media_s)/rules
 AND DO: Assign Variable
 adv_s:=(adv_role_s+adv_con_s+adv_media_s)/rules
- [37] **calculate distribution channel policies score** **Sp**
 IF DO: Assign Variable
 rules:=3
 AND DO: Assign Variable
 score:=(dist_view_s+rev_pol_s+plan_chan_s)/rules
 AND DO: Assign Variable
 dist_scan_s:=(dist_view_s+rev_pol_s+plan_chan_s)/rules
- [38] **Calculate enhance market mix score** **Sp**
 IF DO: Assign Variable
 rules:=3
 AND DO: Assign Variable
 score:=(dist_chan_s+medis_s+pricing_s)/rules
 AND DO: Assign Variable
 enhance_mix_S:=(dist_chan_s+medis_s+pricing_s)/rules
- [39] **calculate field sales and distribution score** **Sp**
 IF DO: Assign Variable
 rules:=3
 AND DO: Assign Variable
 score:=(mgmt_sales_s+sales_sup_s+dist_chan_s)/rules
- [40] **Calculate information score** **Sp**
 IF DO: Assign Variable

```

        rules:=3
    AND      DO: Assign Variable
        score:=(mkt_environ_s+enhance_mix_S+mkt_info_s)/rules

[ 41] calculate management of sales force score      Sp
    IF      DO: Assign Variable
        rules:=3
    AND      DO: Assign Variable
        score:=(sales_obj_s+train_s+motiv_s)/rules
    AND      DO: Assign Variable
        mgmt_sales_s:=(sales_obj_s+train_s+motiv_s)/rules

[ 42] calculate market environment score      Sp
    IF      DO: Assign Variable
        rules:=3
    AND      DO: Assign Variable
        score:=(mkt_struct_s+mkt_att_s+mkt_trend_s)/rules
    AND      DO: Assign Variable
        mkt_environ_s:=(mkt_struct_s+mkt_att_s+mkt_trend_s)/rules

[ 43] calculate market information score      Sp
    IF      DO: Assign Variable
        rules:=2
    AND      DO: Assign Variable
        score:=(mkt_planning_s+mgmt_react_s)/rules
    AND      DO: Assign Variable
        mkt_info_s:=(mkt_planning_s+mgmt_react_s)/rules

[ 44] calculate marketing communication score      Sp
    IF      DO: Assign Variable
        rules:=3
    AND      DO: Assign Variable
        score:=(pr_s+adv_s+prom_s)/rules

[ 45] Calculate marketing concept score      Sp
    IF      DO: Assign Variable
        rules:=3
    AND      DO: Assign Variable
        score:=(sen_mgmt_s+mkt_info_s+Sales_org_s)/rules
    AND      DO: Assign Variable
        mkting_concept_s:=(sen_mgmt_s+mkt_info_s+Sales_org_s)/rules

[ 46] Calculate marketing planning score      Sp
    IF      DO: Assign Variable
        rules:=3
    AND      DO: Assign Variable
        score:=(obj_set_proc_s+mkt_plan_s+mkt_strat_s)/rules

```

AND DO: Assign Variable

$$\text{mkt_plan_s} := (\text{obj_set_proc_s} + \text{mkt_plan_s} + \text{mkt_strat_s}) / \text{rules}$$

[47] **calculate new product development score** Sp
 IF DO: Assign Variable

$$\text{rules} := 3$$
 AND DO: Assign Variable

$$\text{score} := (\text{new_prod_s} + \text{prod_gen_s} + \text{prod_laun_s}) / \text{rules}$$
 AND DO: Assign Variable

$$\text{prod_dev_s} := (\text{new_prod_s} + \text{prod_gen_s} + \text{prod_laun_s}) / \text{rules}$$

[48] **Calculate objectives score** Sp
 IF DO: Assign Variable

$$\text{rules} := 3$$
 AND DO: Assign Variable

$$\text{score} := (\text{prof_obj_s} + \text{prod_sales_obj_s} + \text{prod_dev_obj_s}) / \text{rules}$$
 AND DO: Assign Variable

$$\text{objectives_s} := (\text{prof_obj_s} + \text{prod_sales_obj_s} + \text{prod_dev_obj_s}) / \text{rules}$$

[49] **Calculate Orientation score** Sp
 IF DO: Assign Variable

$$\text{rules} := 3$$
 AND DO: Assign Variable

$$\text{score} := (\text{mkting_concept_s} + \text{objectives_s} + \text{mkt_plan_s}) / \text{rules}$$

[50] **calculate price change and discount score** Sp
 IF DO: Assign Variable

$$\text{rules} := 2$$
 AND DO: Assign Variable

$$\text{score} := (\text{pric_chng_s} + \text{disc_s}) / \text{rules}$$
 AND DO: Assign Variable

$$\text{chng_dsic_s} := (\text{pric_chng_s} + \text{disc_s}) / \text{rules}$$

[51] **calculate price setting score** Sp
 IF DO: Assign Variable

$$\text{rules} := 2$$
 AND DO: Assign Variable

$$\text{score} := (\text{approach_s} + \text{pric_new_s}) / \text{rules}$$
 AND DO: Assign Variable

$$\text{price_set_s} := (\text{approach_s} + \text{pric_new_s}) / \text{rules}$$

[52] **calculate pricing objectives score** Sp
 IF DO: Assign Variable

$$\text{rules} := 1$$
 AND DO: Assign Variable

$$\text{score} := (\text{pric_obj_s}) / \text{rules}$$
 AND DO: Assign Variable

$$\text{price_obj_s} := (\text{pric_obj_s}) / \text{rules}$$

- [53] **calculate pricing strategy score** **Sp**
 IF DO: Assign Variable
 rules:=3
 AND DO: Assign Variable
 score:=(price_obj_s+price_set_s+chng_disc_s)/rules
- [54] **calculate product performance score** **Sp**
 IF DO: Assign Variable
 rules:=3
 AND DO: Assign Variable
 score:=(mkt_stand_s+prod_dem_s+prod_pric_qual_s)/rules
 AND DO: Assign Variable
 prod_perf_s:=(mkt_stand_s+prod_dem_s+prod_pric_qual_s)/rules
- [55] **calculate product strategy score** **Sp**
 IF DO: Assign Variable
 rules:=3
 AND DO: Assign Variable
 score:=(prod_perf_s+rng_viab_s+prod_dev_s)/rules
- [56] **calculate public relations score** **Sp**
 IF DO: Assign Variable
 rules:=3
 AND DO: Assign Variable
 score:=(image_s+im_req_s+id_targ_s)/rules
 AND DO: Assign Variable
 pr_s:=(image_s+im_req_s+id_targ_s)/rules
- [57] **calculate sales promotion score** **Sp**
 IF DO: Assign Variable
 rules:=3
 AND DO: Assign Variable
 score:=(prom_role_s+prom_qual_s+prom_eval_s)/rules
 AND DO: Assign Variable
 prom_s:=(prom_role_s+prom_qual_s+prom_eval_s)/rules
- [58] **calculate sales support activities score** **Sp**
 IF DO: Assign Variable
 rules:=1
 AND DO: Assign Variable
 score:=(sale_aid_s)/rules
 AND DO: Assign Variable
 sales_sup_s:=(sale_aid_s)/rules
- [59] **calculate viability score** **Sp**
 IF DO: Assign Variable

```

rules:=3
AND      DO: Assign Variable
score:=(prod_rng_s+prod_elim_s+prod_perfs_s)/rules
AND      DO: Assign Variable
rng_viab_s:=(prod_rng_s+prod_elim_s+prod_perfs_s)/rules

```

[60] changes and discounts evaluation

```

IF      [ 90] evaluate score
AND      DO: Display Form

```

[61] check for printer

```

IF      DO: Test Expression
printok(0)

```

[62] control of the advertising activities **Sp**

```

IF      DO: Menu Question adv_con

AND      DO: Test Expression
adv_con=1

OR      DO: Test Expression
adv_con=2
AND      DO: Assign Variable
adv_con_s:=50

OR      DO: Test Expression
adv_con=3
AND      DO: Assign Variable
adv_con_s:=100

```

[63] demand for our products **Sp**

```

IF      DO: Menu Question prod_dem

AND      DO: Test Expression
prod_dem=1

OR      DO: Test Expression
prod_dem=2
AND      DO: Assign Variable
prod_dem_s:=50

OR      DO: Test Expression
prod_dem=3
AND      DO: Assign Variable
prod_dem_s:=100

```

[64] discounts

Sp

```

IF      DO: Menu Question disc

```

AND DO: Test Expression
disc=1

OR DO: Test Expression
disc=2
AND DO: Assign Variable
disc_s:=50

OR DO: Test Expression
disc=3
AND DO: Assign Variable
disc_s:=100

[65] distribution channel evaluation

IF [90] evaluate score
AND DO: Display Form

[66] Distribution channel policies Sp

IF DO: Menu Question fsd_2_3

AND DO: Test Expression
fsd_2_3=1
AND [67] distribution channel policies score
AND [65] distribution channel evaluation
AND DO: Assign Variable
prob\$="Distribution channel policies"
AND DO: Assign Variable
probno:=3
AND [276] update level 3 fsd array

OR DO: Test Expression
fsd_2_3=3
AND [106] initialise variables
AND [69] distributors view of policies
AND [207] review policies
AND [168] plan channels
AND [37] calculate distribution channel policies score
AND [65] distribution channel evaluation
AND DO: Assign Variable
prob\$="Distribution channel policies"
AND DO: Assign Variable
probno:=3
AND [276] update level 3 fsd array

OR DO: Test Expression
fsd_2_3=2
AND [13] assign distribution channel policies score
AND [65] distribution channel evaluation
AND DO: Assign Variable
prob\$="Distribution channel policies"
AND DO: Assign Variable
probno:=3
AND [276] update level 3 fsd array

- [67] **distribution channel policies score** **Sp**
 IF DO: Assign Variable
 score:=0
 AND DO: Assign Variable
 dist_scan_s:=0
- [68] **distribution channels** **Sp**
 IF DO: Menu Question dist_chan

 AND DO: Test Expression
 dist_chan=1

 OR DO: Test Expression
 dist_chan=2
 AND DO: Assign Variable
 dist_chan_s:=50

 OR DO: Test Expression
 dist_chan=3
 AND DO: Assign Variable
 dist_chan_s:=100
- [69] **distributors view of policies** **Sp**
 IF DO: Menu Question dist_view

 AND DO: Test Expression
 dist_view=1

 OR DO: Test Expression
 dist_view=2
 AND DO: Assign Variable
 dist_view_s:=50

 OR DO: Test Expression
 dist_view=3
 AND DO: Assign Variable
 dist_view_s:=100
- [70] **enhance market mix score** **Sp**
 IF DO: Assign Variable
 score:=0
 AND DO: Assign Variable
 enhance_mix_S:=0
- [71] **evaluate advertising** **Sp**
 IF DO: Assign Variable
 rules:=3

AND DO: Assign Variable
 score:=(adv_role_s+adv_con_s+adv_media_s)/rules
 AND [90] evaluate score
 AND DO: Display Form

[72] **evaluate distribution channel policies** Sp
 IF DO: Assign Variable
 rules:=3
 AND DO: Assign Variable
 score:=(dist_view_s+rev_pol_s+plan_chan_s)/rules
 AND [90] evaluate score
 AND DO: Display Form

[73] **evaluate management of sales force** Sp
 IF DO: Assign Variable
 rules:=3
 AND DO: Assign Variable
 score:=(sales_obj_s+train_s+motiv_s)/rules
 AND [90] evaluate score
 AND DO: Display Form

[74] **evaluate market environment** Sp
 IF DO: Assign Variable
 rules:=3
 AND DO: Assign Variable
 score:=(mkt_struct_s+mkt_att_s+mkt_trend_s)/rules
 AND [90] evaluate score
 AND DO: Display Form

[75] **evaluate market information** Sp
 IF DO: Assign Variable
 rules:=2
 AND DO: Assign Variable
 score:=(mkt_planning_s+mgmt_react_s)/rules
 AND [90] evaluate score
 AND DO: Display Form

[76] **evaluate marketing concept** Sp
 IF DO: Assign Variable
 rules:=3
 AND DO: Assign Variable
 score:=(sen_mgmt_s+mkt_info_s+Sales_org_s)/rules
 AND [90] evaluate score
 AND DO: Display Form

[77] **evaluate marketing objectives** Sp
 IF DO: Assign Variable

```

        rules:=3
    AND      DO: Assign Variable
        score:=(prof_obj_s+prod_sales_obj_s+prod_dev_obj_s)/rules
    AND      [ 90] evaluate score
    AND      DO: Display Form

[ 78] evaluate marketing planning      Sp
    IF      DO: Assign Variable
        rules:=3
    AND      DO: Assign Variable
        score:=(obj_set_proc_s+mkt_plan_s+mkt_strat_s)/rules
    AND      [ 90] evaluate score
    AND      DO: Display Form

[ 79] evaluate new product development  Sp
    IF      DO: Assign Variable
        rules:=3
    AND      DO: Assign Variable
        score:=(new_prod_s+prod_gen_s+prod_laun_s)/rules
    AND      [ 90] evaluate score
    AND      DO: Display Form

[ 80] evaluate price changes and discounts  Sp
    IF      DO: Assign Variable
        rules:=2
    AND      DO: Assign Variable
        score:=(pric_chng_s+disc_s)/rules
    AND      [ 90] evaluate score
    AND      DO: Display Form

[ 81] evaluate price setting      Sp
    IF      DO: Assign Variable
        rules:=2
    AND      DO: Assign Variable
        score:=(approach_s+pric_new_s)/rules
    AND      [ 90] evaluate score
    AND      DO: Display Form

[ 82] evaluate pricing objectives      Sp
    IF      DO: Assign Variable
        rules:=1
    AND      DO: Assign Variable
        score:=(prod_obj_s)/rules
    AND      [ 90] evaluate score
    AND      DO: Display Form

[ 83] evaluate product performance      Sp

```

```

IF          DO: Assign Variable
rules:=3
AND         DO: Assign Variable
score:=(mkt_stand_s+prod_dem_s+prod_pric_qual_s)/rules
AND         [ 90] evaluate score
AND         DO: Display Form

[ 84] evaluate public relations      Sp
IF          DO: Assign Variable
rules:=3
AND         DO: Assign Variable
score:=(image_s+im_req_s+id_targ_s)/rules
AND         [ 90] evaluate score
AND         DO: Display Form

[ 85] evaluate sales promotion      Sp
IF          DO: Assign Variable
rules:=3
AND         DO: Assign Variable
score:=(prom_role_s+prom_qual_s+prom_eval_s)/rules
AND         [ 90] evaluate score
AND         DO: Display Form

[ 86] evaluate sales support activities  Sp
IF          DO: Assign Variable
rules:=1
AND         DO: Assign Variable
score:=(sales_aid_s)/rules
AND         [ 90] evaluate score
AND         DO: Display Form

[ 87] evaluate search to enhance mix    Sp
IF          DO: Assign Variable
rules:=3
AND         DO: Assign Variable
score:=(dist_chan_s+media_s+pricing_s)/rules
AND         [ 90] evaluate score
AND         DO: Display Form

[ 88] evaluate viability of the range    Sp
IF          DO: Assign Variable
rules:=3
AND         DO: Assign Variable
score:=(prod_rmg_s+prod_elim_s+prod_perfs_s)/rules
AND         [ 90] evaluate score
AND         DO: Display Form

[ 89] evaluation of promotion campaign    Sp
IF          DO: Menu Question prom_eval

AND         DO: Test Expression
prom_eval=1

```

OR DO: Test Expression
 prom_eval=2
 AND DO: Assign Variable
 prom_eval_s:=50

 OR DO: Test Expression
 prom_eval=3
 AND DO: Assign Variable
 prom_eval_s:=100

[90] evaluate score Sp
 IF DO: Test Expression
 score>=0
 AND DO: Test Expression
 score<=10
 AND DO: Assign Variable
 result\$:="Good Position"

 OR DO: Test Expression
 score<30
 AND DO: Assign Variable
 result\$:="Poor position"

 OR DO: Test Expression
 score>70
 AND DO: Assign Variable
 result\$:="Dire position"

 OR DO: Assign Variable
 result\$:="Bad position"

[91] Expert chooses Sp
 IF [256] Test for expert chooses
 AND [105] initialise arrays
 AND [222] set up test data
 AND [163] Orientation
 AND [101] Information
 AND [197] Product Strategy
 AND [183] pricing Strategy
 AND [93] Field Sales and Distribution
 AND [140] Marketing Communication

[92] Expert chooses/User suggests Sp
 IF DO: Test Expression
 main=1
 AND DO: Menu Question main2

 AND DO: Test Expression
 main2=3
 AND DO: Display Form

AND DO: Restart Rule
OR DO: Test Expression
 main2=2
AND DO: Assign Variable
 main:=2
OR DO: Succeed

[93] Field Sales and Distribution **Sp**
IF DO: Menu Question fsd_1

AND DO: Test Expression
 fsd_1=1
AND [95] field sales and distribution score
AND [94] Field sales and distribution evaluation
AND DO: Assign Variable
 prob\$:="Field Sales and Distribution"
AND DO: Assign Variable
 probno:=5
AND [275] update level 2 array

OR DO: Test Expression
 fsd_1=3
AND [131] Management of sales force
AND [215] Sales support activities
AND [66] Distribution channel policies
AND [106] initialise variables
AND [39] calculate field sales and distribution score
AND [94] Field sales and distribution evaluation
AND DO: Assign Variable
 prob\$:="Field Sales and Distribution"
AND DO: Assign Variable
 probno:=5
AND [275] update level 2 array

OR DO: Test Expression
 fsd_1=2
AND [15] assign field sales and distribution score
AND [94] Field sales and distribution evaluation
AND DO: Assign Variable
 prob\$:="Field Sales and Distribution"
AND DO: Assign Variable
 probno:=5
AND [275] update level 2 array

[94] Field sales and distribution evaluation
IF [90] evaluate score
AND DO: Display Form

[95] field sales and distribution score **Sp**
IF DO: Assign Variable
 score:=0

[96] Go to analysis and diagnosis	Sp
IF	[92] Expert chooses/User suggests
AND	[91] Expert chooses
AND	[239] show report
AND	[187] Print report
OR	[283] User suggests

[98] image of the company Sp

IF DO: Menu Question image

AND DO: Test Expression
image=1

OR DO: Test Expression
image=2

AND DO: Assign Variable
image_s:=50

OR DO: Test Expression
image=3

AND DO: Assign Variable
image s:=100

im_req_s:=50

OR DO: Test Expression
im_req=3
AND DO: Assign Variable
im_req_s:=100

[100] Import variables Sp
IF DO: Test Expression
import("primary.dat")

[101] Information Sp
IF DO: Menu Question inf_1

AND DO: Test Expression
inf_1=1
AND [103] information score
AND [102] Information evaluation
AND DO: Assign Variable
prob\$:="Information"
AND DO: Assign Variable
probno:=2
AND [275] update level 2 array

OR DO: Test Expression
inf_1=3
AND [252] Study market environment
AND [218] search for opportunities to enhance mkt mix
AND [282] use market information
AND [106] initialise variables
AND [40] Calculate information score
AND [102] Information evaluation
AND DO: Assign Variable
prob\$:="Information"
AND DO: Assign Variable
probno:=2
AND [275] update level 2 array

OR DO: Test Expression
inf_1=2
AND [16] assign information score
AND [102] Information evaluation
AND DO: Assign Variable
prob\$:="Information"
AND DO: Assign Variable
probno:=2
AND [275] update level 2 array

[102] Information evaluation
IF [90] evaluate score
AND DO: Display Form

[103] **information score** Sp
IF DO: Assign Variable
score:=0

[104] **Init**
IF DO: Test Expression
arrclr(arr1\$[#])
AND DO: Assign Variable
l1\$:=" ESAD SALES/MARKETING"
AND DO: Assign Variable
l2\$:="ANALYSIS AND DIAGNOSIS"
AND DO: Assign Variable
I:=0

[105] **initialise arrays** Sp
IF [109] level 2 array
AND [118] level 3 orientation array
AND [114] level 3 information array
AND [122] level 3 product strategy array
AND [120] level 3 pricing strategy array
AND [112] level 3 field sales and distribution array
AND [116] level 3 marketing communication array

[106] **initialise variables** Sp
IF DO: Assign Variable
rules:=0
AND DO: Assign Variable
score:=0

[107] **Introduction** Sp
IF DO: Init. Variables
AND DO: End Explain
AND [129] Logo

OR DO: Succeed

[108] **level 2** Sp
IF DO: Menu Question user_1\$

[109] **level 2 array** Sp
IF DO: Test Expression
arrclr(level2\$[#])
AND DO: Test Expression
arrclr(level2score[#, #])
AND DO: Assign Variable
level2\$[0]:=" "
AND DO: Assign Variable
level2score[0,0]:=0


```

AND          DO: Assign Variable
level2score[0,1]:=1000

[ 110] level 3          Sp
IF          DO: Test Expression
start("Marketing or",user_1$)
AND          [ 7] analyse orientation
AND          DO: Succeed

OR          DO: Test Expression
start("Marketing in",user_1$)
AND          [ 5] analyse information
AND          DO: Succeed

OR          DO: Test Expression
start("product",user_1$)
AND          [ 9] analyse product strategy
AND          DO: Succeed

OR          DO: Test Expression
start("pricing",user_1$)
AND          [ 8] analyse pricing Strategy
AND          DO: Succeed

OR          DO: Test Expression
start("field",user_1$)
AND          [ 4] analyse field sales and distribution
AND          DO: Succeed

OR          DO: Test Expression
start("Marketing co",user_1$)
AND          [ 6] analyse marketing communications
AND          DO: Succeed
[ 111] level 3 field sales and distribution    Sp
IF          DO: Test Expression
fsd_1<3
AND          DO: Test Expression
beep(523,4)
AND          DO: Display Form

OR          DO: Menu Question lev_3_fsd$

[ 112] level 3 field sales and distribution array    Sp
IF          DO: Test Expression
arrclr(level3_fsd$[#])
AND          DO: Test Expression
arrclr(level3_fsd_score[#,#])
AND          DO: Assign Variable
level3_fsd[0]:=" "
AND          DO: Assign Variable
level3_fsd_score[0,0]:=0
AND          DO: Assign Variable
level3_fsd_score[0,1]:=1000

```

[113] level 3 information Sp
 IF DO: Test Expression
 inf_1<3
 AND DO: Test Expression
 beep(523,4)
 AND DO: Display Form
 OR DO: Menu Question lev_3_inf\$

[114] level 3 information array Sp
 IF DO: Test Expression
 arrclr(level3_inf\$[#])
 AND DO: Test Expression
 arrclr(level3_inf_score[#,#])
 AND DO: Assign Variable
 level3_inf\$[0]:=" "
 AND DO: Assign Variable
 level3_inf_score[0,0]:=0
 AND DO: Assign Variable
 level3_inf_score[0,1]:=1000

[115] level 3 marketing communication Sp
 IF DO: Test Expression
 mkt_com_1<3
 AND DO: Test Expression
 beep(523,4)
 AND DO: Display Form
 OR DO: Menu Question lev_3_mkt_com\$

[116] level 3 marketing communication array Sp
 IF DO: Test Expression
 arrclr(level3_mkt_com\$[#])
 AND DO: Test Expression
 arrclr(level3_mkt_com_score[#,#])
 AND DO: Assign Variable
 level3_mkt_com\$[0]:=" "
 AND DO: Assign Variable
 level3_mkt_com_score[0,0]:=0
 AND DO: Assign Variable
 level3_mkt_com_score[0,1]:=1000

[117] level 3 orientation Sp
 IF DO: Test Expression
 or_1<3
 AND DO: Test Expression
 beep(523,4)
 AND DO: Display Form
 OR DO: Menu Question lev_3_or\$

[118] level 3 orientation array **Sp**

IF DO: Test Expression
arrclr(level3_or\$[#])
AND DO: Test Expression
arrclr(level3_or_score[#,#])
AND DO: Assign Variable
level3_or\$[0]:=" "
AND DO: Assign Variable
level3_or_score[0,0]:=0
AND DO: Assign Variable
level3_or_score[0,1]:=1000

[119] level 3 pricing strategy **Sp**

IF DO: Test Expression
pric_strat_1<3
AND DO: Test Expression
beep(523,4)
AND DO: Display Form

OR DO: Menu Question lev_3_pric_strat\$

[120] level 3 pricing strategy array **Sp**

IF DO: Test Expression
arrclr(level3_pric_strat\$[#])
AND DO: Test Expression
arrclr(level3_pric_strat_score[#,#])
AND DO: Assign Variable
level3_pric_strat\$[0]:=" "
AND DO: Assign Variable
level3_pric_strat_score[0,0]:=0
AND DO: Assign Variable
level3_pric_strat_score[0,1]:=1000

[121] level 3 product strategy **Sp**

IF DO: Test Expression
prod_strat_1<3
AND DO: Test Expression
beep(523,4)
AND DO: Display Form

OR DO: Menu Question lev_3_prod_strat\$

[122] level 3 product strategy array **Sp**

IF DO: Test Expression
arrclr(level3_prod_strat\$[#])
AND DO: Test Expression
arrclr(level3_prod_strat_score[#,#])
AND DO: Assign Variable
level3_prod_strat\$[0]:=" "
AND DO: Assign Variable
level3_prod_strat_score[0,0]:=0
AND DO: Assign Variable

level3_prod_strat_score[0,1]:=1000

[123] level 4 field sales and distribution Sp
IF DO: Test Expression
 start("Management",lev_3_fsd\$)
AND [229] show management of sales force

OR DO: Test Expression
 start("Sales",lev_3_fsd\$)
AND [241] show sales support activities

OR DO: Test Expression
 start("Distributi",lev_3_fsd\$)
AND [225] show distribution channel policies

[124] level 4 information Sp
IF DO: Test Expression
 start("study",lev_3_inf\$)
AND [242] show study market environment

OR DO: Test Expression
 start("search",lev_3_inf\$)
AND [226] show enhance mix

OR DO: Test Expression
 start("use",lev_3_inf\$)
AND [230] show market information

[125] level 4 marketing communication Sp
IF DO: Test Expression
 start("Public",lev_3_mkt_com\$)
AND [238] show public relations

OR DO: Test Expression
 start("Advertisin",lev_3_fsd\$)
AND [223] show advertising

OR DO: Test Expression
 start("Sales Prom",lev_3_fsd\$)
AND [240] show sales promotion

[126] level 4 orientation Sp
IF DO: Test Expression
 start("Marketing",lev_3_or\$)
AND [231] show marketing concept

OR DO: Test Expression
 start("Objective",lev_3_or\$)
AND [233] show objectives

OR DO: Test Expression

start("Appropria",lev_3_or\$)
AND [224] show appropriate planning

[127] **level 4 pricing strategy** **Sp**
IF DO: Test Expression
start("Pricing obj",lev_3_pric_strat\$)
AND [237] show pricing objectives

OR DO: Test Expression
start("price set",lev_3_pric_strat\$)
AND [235] show price setting

OR DO: Test Expression
start("Price chang",lev_3_pric_strat\$)
AND [236] show prices changes and discounts

[128] **level 4 product strategy** **Sp**
IF DO: Test Expression
start("performance",lev_3_prod_strat\$)
AND [234] show performance of product

OR DO: Test Expression
start("viability",lev_3_prod_strat\$)
AND [243] show viability of range

OR DO: Test Expression
start("new",lev_3_prod_strat\$)
AND [232] show new product development

[129] **Logo**
IF [104] Init
AND [221] Set line to next spot in array
AND DO: View Form

AND DO: Restart Rule

OR DO: Display Form

AND DO: Display Form

[130] **management evaluation**
IF [90] eveluate score
AND DO: Display Form

[131] **Management of sales force** **Sp**
IF DO: Menu Question fsd_2_1

AND DO: Test Expression
fsd_2_1=1
AND [132] management of sales force score

```

AND          [ 130] management evaluation
AND          DO: Assign Variable
prob$:="Management of sales force"
AND          DO: Assign Variable
probno:=1
AND          [ 276] update level 3 fsd array

OR           DO: Test Expression
fsd_2_1=3
AND          [ 106] initialise variables
AND          [ 211] sales objectives
AND          [ 274] training of the sales force
AND          [ 154] motivation of the sales force
AND          [ 41] calculate management of sales force score
AND          [ 130] management evaluation
AND          DO: Assign Variable
prob$:="Management of sales force"
AND          DO: Assign Variable
probno:=1
AND          [ 276] update level 3 fsd array

OR           DO: Test Expression
fsd_2_1=2
AND          [ 17] assign management of sales force score
AND          [ 130] management evaluation
AND          DO: Assign Variable
prob$:="Management of sales force"
AND          DO: Assign Variable
probno:=1
AND          [ 276] update level 3 fsd array

```

```

[ 132] management of sales force score      Sp
IF          DO: Assign Variable
score:=0
AND          DO: Assign Variable
mgmt_sales_s:=0

```

```

[ 133] management reaction                  Sp
IF          DO: Menu Question mgmt_react

AND          DO: Test Expression
mgmt_react=1

OR           DO: Test Expression
mgmt_react=2
AND          DO: Assign Variable
mgmt_react_s:=50

OR           DO: Test Expression
mgmt_react=3
AND          DO: Assign Variable
mgmt_react_s:=100

```

[134] **market attitudes** **Sp**
IF DO: Menu Question mkt_att

AND DO: Test Expression
mkt_att=1

OR DO: Test Expression
mkt_att=2
AND DO: Assign Variable
mkt_att_s:=50

OR DO: Test Expression
mkt_att=3
AND DO: Assign Variable
mkt_att_s:=100

[135] **market environment score** **Sp**
IF DO: Assign Variable
score:=0
AND DO: Assign Variable
mkt_environs:=0

[136] **market information score** **Sp**
IF DO: Assign Variable
score:=0
AND DO: Assign Variable
mkt_info_s:=0

[137] **market planning** **Sp**
IF DO: Menu Question mkt_planning

AND DO: Test Expression
mkt_planning=1

OR DO: Test Expression
mkt_planning=2
AND DO: Assign Variable
mkt_planning_s:=50

OR DO: Test Expression
mkt_planning=3
AND DO: Assign Variable
mkt_planning_s:=100

[138] **Market structure** **Sp**
IF DO: Menu Question mkt_struct

AND DO: Test Expression
mkt_struct=1

OR DO: Test Expression
 mkt_struct=2
AND DO: Assign Variable
 mkt_struct_s:=50

OR DO: Test Expression
 mkt_struct=3
AND DO: Assign Variable
 mkt_struct_s:=100

[139] **market trends** **Sp**
IF DO: Menu Question mkt_trend

AND DO: Test Expression
 mkt_trend=1

OR DO: Test Expression
 mkt_trend=2
AND DO: Assign Variable
 mkt_trend_s:=50

OR DO: Test Expression
 mkt_trend=3
AND DO: Assign Variable
 mkt_trend_s:=100

[140] **Marketing Communication** **Sp**
IF DO: Menu Question mkt_com_1

AND DO: Test Expression
 mkt_com_1=1
AND [142] marketing communication score
AND [141] Marketing communication evaluation
AND DO: Assign Variable
 prob\$:="Marketing Communication"
AND DO: Assign Variable
 probno:=6
AND [275] update level 2 array

OR DO: Test Expression
 mkt_com_1=3
AND [203] Public relations
AND [2] Advertising
AND [213] Sales promotion
AND [106] initialise variables
AND [44] calculate marketing communication score
AND [141] Marketing communication evaluation
AND DO: Assign Variable
 prob\$:="Marketing Communication"
AND DO: Assign Variable
 probno:=6
AND [275] update level 2 array

OR DO: Test Expression
 mkt_com_1=2
 AND [20] assign marketing communication score
 AND [141] Marketing communication evaluation
 AND DO: Assign Variable
 prob\$:="Marketing Communication"
 AND DO: Assign Variable
 probno:=6
 AND [275] update level 2 array

[141] Marketing communication evaluation

IF [90] evaluate score
 AND DO: Display Form

[142] marketing communication score Sp

IF DO: Assign Variable
 score:=0

[143] marketing concept evaluation

IF [90] evaluate score
 AND DO: Display Form

[144] marketing concept score Sp

IF DO: Assign Variable
 score:=0
 AND DO: Assign Variable
 mkting_concept_s:=0

[145] Marketing concept the driving force Sp

IF DO: Menu Question or_2_1

AND DO: Test Expression
 or_2_1=1
 AND [144] marketing concept score
 AND [143] marketing concept evaluation
 AND DO: Assign Variable
 prob\$:="Marketing concept the driving force"
 AND DO: Assign Variable
 probno:=1
 AND [279] Update level 3 orientation array

OR DO: Test Expression
 or_2_1=3
 AND [106] initialise variables
 AND [220] senior management
 AND [147] marketing information
 AND [212] sales organisation
 AND [45] Calculate marketing concept score
 AND [143] marketing concept evaluation

```

AND          DO: Assign Variable
prob$:="Marketing concept the driving force"
AND          DO: Assign Variable
probno:=1
AND          [ 279] Update level 3 orientation array

OR           DO: Test Expression
or_2_1=2
AND          [ 21] assign marketing concept score
AND          [ 143] marketing concept evaluation
AND          DO: Assign Variable
prob$:="Marketing concept the driving force"
AND          DO: Assign Variable
probno:=1
AND          [ 279] Update level 3 orientation array

```

```

[ 146] marketing function ok          Sp
IF          [ 107] Introduction
AND         [ 100] Import variables
AND         [ 96] Go to analysis and diagnosis
AND         [ 206] restart

```

```

[ 147] marketing information          Sp
IF          DO: Menu Question mkt_info

AND         DO: Test Expression
mkt_info=1
AND         DO: Succeed

OR          DO: Test Expression
mkt_info=2
AND         DO: Assign Variable
mkt_info_s:=50

OR          DO: Test Expression
mkt_info=3
AND         DO: Assign Variable
mkt_info_s:=100

```

```

[ 148] marketing information evaluation
IF          [ 90] evaluate score
AND         DO: Display Form

```

```

[ 149] marketing planning            Sp
IF          DO: Menu Question mkt_plan

AND         DO: Test Expression
mkt_plan=1

OR          DO: Test Expression

```


AND mkt_plan=2
 DO: Assign Variable
 mkt_plan_s:=50

OR DO: Test Expression
 mkt_plan=3
 AND DO: Assign Variable
 mkt_plan_s:=100

[150] marketing planning score Sp

IF DO: Assign Variable
 score:=0
 AND DO: Assign Variable
 mkt_plan_s:=0

[151] marketing standing of our product Sp

IF DO: Menu Question mkt_stand

AND DO: Test Expression
 mkt_stand=1

OR DO: Test Expression
 mkt_stand=2

AND DO: Assign Variable
 mkt_stand_s:=50

OR DO: Test Expression
 mkt_stand=3

AND DO: Assign Variable
 mkt_stand_s:=100

[152] marketing strategy Sp

IF DO: Menu Question mkt_strat

AND DO: Test Expression
 mkt_strat=1

OR DO: Test Expression
 mkt_strat=2

AND DO: Assign Variable
 mkt_strat_s:=50

OR DO: Test Expression
 mkt_strat=3

AND DO: Assign Variable
 mkt_strat_s:=100

[153] media Sp

IF DO: Menu Question media

AND DO: Test Expression
media=1

OR DO: Test Expression
media=2
AND DO: Assign Variable
media_s:=50

OR DO: Test Expression
media=3
AND DO: Assign Variable
media_s:=100

[154] motivation of the sales force **Sp**
IF DO: Menu Question motiv

AND DO: Test Expression
motiv=1

OR DO: Test Expression
motiv=2
AND DO: Assign Variable
motiv_s:=50

OR DO: Test Expression
motiv=3
AND DO: Assign Variable
motiv_s:=100

[155] new product development **Sp**
IF DO: Menu Question prod_strat_2_3

AND DO: Test Expression
prod_strat_2_3=1
AND [156] new product development score
AND [157] new product evaluation
AND DO: Assign Variable
prob\$:="New product development"
AND DO: Assign Variable
probno:=3
AND [281] update level 3 product strategy array

OR DO: Test Expression
prod_strat_2_3=3
AND [106] initialise variables
AND [287] when develop new products
AND [192] product idea generation
AND [158] new product launch
AND [47] calculate new product development score
AND [157] new product evaluation
AND DO: Assign Variable
prob\$:="New product development"

```

AND          DO: Assign Variable
              probno:=3
AND          [ 281] update level 3 product strategy array

OR           DO: Test Expression
              prod_strat_2_3=3
AND          [ 23] assign new product development score
AND          [ 157] new product evaluation
AND          DO: Assign Variable
              prob$:="New product development"
AND          DO: Assign Variable
              probno:=3
AND          [ 281] update level 3 product strategy array

[ 156] new product development score          Sp
IF          DO: Assign Variable
              score:=0
AND          DO: Assign Variable
              prod_dev_s:=0

```

[157] new product evaluation

IF [90] evaluate score
AND DO: Display Form

[158] new product launch

Sp

IF DO: Menu Question prod_laun

AND DO: Test Expression
prod_laun=1

OR DO: Test Expression
prod_laun=2

AND DO: Assign Variable
prod_laun_s:=50

OR DO: Test Expression
prod_laun=3

AND DO: Assign Variable
prod_laun_s:=100

[159] objective setting process

Sp

IF DO: Menu Question obj_set_proc

AND DO: Test Expression
obj_set_proc=1

OR DO: Test Expression
obj_set_proc=2

AND DO: Assign Variable
obj_set_proc_s:=50

OR DO: Test Expression
obj_set_proc=3

AND DO: Assign Variable
obj_set_proc_s:=100

[160] objectives evaluation

IF [90] evaluate score
AND DO: Display Form

[161] Objectives reflect marketing orientation

Sp

IF DO: Menu Question or_2_2

AND DO: Test Expression
or_2_2=1

AND [162] objectives score

AND [160] objectives evaluation

AND DO: Assign Variable

prob\$:="Objectives reflect marketing orientation"

AND DO: Assign Variable

```

        probno:=2
AND      [ 279] Update level 3 orientation array

OR      DO: Test Expression
        or_2_2=3
AND      [ 106] initialise variables
AND      [ 201] profitability objectives
AND      [ 196] product sales objectives
AND      [ 190] product development objectives
AND      [ 48] Calculate objectives score
AND      [ 160] objectives evaluation
AND      DO: Assign Variable
        prob$:="Objectives reflect marketing orientation"
AND      DO: Assign Variable
        probno:=2
AND      [ 279] Update level 3 orientation array

OR      DO: Test Expression
        or_2_2=2
AND      [ 24] assign objectives score
AND      [ 160] objectives evaluation
AND      DO: Assign Variable
        prob$:="Objectives reflect marketing orientation"
AND      DO: Assign Variable
        probno:=2
AND      [ 279] Update level 3 orientation array

```

```

[ 162] objectives score      Sp
      IF      DO: Assign Variable
            score:=0
      AND      DO: Assign Variable
            objectives_s:=0

```

```

[ 163] Orientation      Sp
      IF      DO: Menu Question or_1

      AND      DO: Test Expression
            or_1=1 ,
      AND      [ 165] Orientation score
      AND      [ 164] Orientation evaluation
      AND      DO: Assign Variable
            prob$:="Orientation"
      AND      DO: Assign Variable
            probno:=1
      AND      [ 275] update level 2 array

      OR      DO: Test Expression
            or_1=3
      AND      [ 145] Marketing concept the driving force
      AND      [ 161] Objectives reflect marketing orientation
      AND      [ 11] Appropriate marketing planning procedure
      AND      [ 106] initialise variables
      AND      [ 49] Calculate Orientation score
      AND      [ 164] Orientation evaluation
      AND      DO: Assign Variable

```



```

                                prob$:="Orientation"
AND                            DO: Assign Variable
                                probno:=1
AND                            [ 275] update level 2 array

OR                              DO: Test Expression
                                or_1=2
AND                            [ 25] assign Orientation score
AND                            [ 164] Orientation eveluation
AND                            DO: Assign Variable
                                prob$:="Orientation"
AND                            DO: Assign Variable
                                probno:=1
AND                            [ 275] update level 2 array

```

[164] Orientation eveluation

```

IF                            [ 90] eveluate score
AND                            DO: Display Form

```

[165] Orientation score Sp

```

IF                            DO: Assign Variable
                                score:=0

```

[166] performance evaluation

```

IF                            [ 90] eveluate score
AND                            DO: Display Form

```

[167] performance of present product Sp

```

IF                            DO: Menu Question prod_strat_2_1

AND                            DO: Test Expression
                                prod_strat_2_1=1
AND                            [ 194] product performance score
AND                            [ 166] performance evaluation
AND                            DO: Assign Variable
                                prob$:="Performance of present product"
AND                            DO: Assign Variable
                                probno:=1
AND                            [ 281] update level 3 product strategy array

OR                              DO: Test Expression
                                prod_strat_2_1=3
AND                            [ 106] initialise variables
AND                            [ 151] marketing standing of our product
AND                            [ 63] demand for our products
AND                            [ 200] products price/quality performance
AND                            [ 54] calculate product performance score
AND                            [ 166] performance evaluation
AND                            DO: Assign Variable
                                prob$:="Performance of present product"
AND                            DO: Assign Variable
                                probno:=1

```

AND [281] update level 3 product strategy array
OR DO: Test Expression
 prod_strat_2_1=2
AND [30] assign product performance score
AND [166] performance evaluation
AND DO: Assign Variable
 prob\$:="Performance of present product"
AND DO: Assign Variable
 probno:=1
AND [281] update level 3 product strategy array

[168] plan channels **Sp**
IF DO: Menu Question plan_chan

AND DO: Test Expression
 plan_chan=1

OR DO: Test Expression
 plan_chan=2
AND DO: Assign Variable
 plan_chan_s:=50

OR DO: Test Expression
 plan_chan=3
AND DO: Assign Variable
 plan_chan_s:=100

[169] planning evaluation
IF [90] eveluate score
AND DO: Display Form

[170] pr evaluation
IF [90] eveluate score
AND DO: Display Form

[171] price change and discount score **Sp**
IF DO: Assign Variable
 :=0
AND DO: Assign Variable
 chng_dsic_s:=0

[172] price changes **Sp**
IF DO: Menu Question pric_chng

AND DO: Test Expression
 pric_chng=1

OR DO: Test Expression

```

    pric_chng=2
AND      DO: Assign Variable
    pric_chng_s:=50

OR      DO: Test Expression
    pric_chng=3
AND      DO: Assign Variable
    pric_chng_s:=100

```

```

[ 173] Price changes and discounts      Sp
IF      DO: Menu Question pric_strat_2_3

AND      DO: Test Expression
    pric_strat_2_3=1
AND      [ 171] price change and discount score
AND      [ 60] changes and discounts evaluation
AND      DO: Assign Variable
    prob$:="Price changing and discounting"
AND      DO: Assign Variable
    probno:=3
AND      [ 280] update level 3 pricing strategy array

OR      DO: Test Expression
    pric_strat_2_3=3
AND      [ 106] initialise variables
AND      [ 172] price changes
AND      [ 64] discounts
AND      [ 50] calculate price change and discount score
AND      [ 60] changes and discounts evaluation
AND      DO: Assign Variable
    prob$:="Price changing and discounting"
AND      DO: Assign Variable
    probno:=3
AND      [ 280] update level 3 pricing strategy array

OR      DO: Test Expression
    pric_strat_2_3=2
AND      [ 26] assign price change and discount score
AND      [ 60] changes and discounts evaluation
AND      DO: Assign Variable
    prob$:="Price changing and discounting"
AND      DO: Assign Variable
    probno:=3
AND      [ 280] update level 3 pricing strategy array

```

```

[ 174] Price setting      Sp
IF      DO: Menu Question pric_strat_2_2

AND      DO: Test Expression
    pric_strat_2_2=1
AND      [ 176] price setting score
AND      [ 175] price setting evaluation
AND      DO: Assign Variable
    prob$:="Price setting"

```

```

AND          DO: Assign Variable
probno:=2
AND          [ 280] update level 3 pricing strategy array

OR           DO: Test Expression
            pric_strat_2_2=3
AND          [ 106] initialise variables
AND          [ 10] approach to price setting
AND          [ 178] pricing new products
AND          [ 51] calculate price setting score
AND          [ 175] price setting evaluation
AND          DO: Assign Variable
            prob$:="Price setting"
AND          DO: Assign Variable
            probno:=2
AND          [ 280] update level 3 pricing strategy array

OR           DO: Test Expression
            pric_strat_2_2=2
AND          [ 27] assign price setting score
AND          [ 175] price setting evaluation
AND          DO: Assign Variable
            prob$:="Price setting"
AND          DO: Assign Variable
            probno:=2
AND          [ 280] update level 3 pricing strategy array

```

[175] price setting evaluation

```

IF           [ 90] evaluate score
AND          DO: Display Form

```

[176] price setting score Sp

```

IF           DO: Assign Variable
            score:=0
AND          DO: Assign Variable
            price_set_s:=0

```

[177] pricing Sp

```

IF           DO: Menu Question pricing

AND          DO: Test Expression
            pricing=1

OR           DO: Test Expression
            pricing=2
AND          DO: Assign Variable
            pricing_s:=50

OR           DO: Test Expression
            pricing=3
AND          DO: Assign Variable
            pricing_s:=100

```

[178] pricing new products **Sp**
IF DO: Menu Question pric_new

AND DO: Test Expression
pric_new=1

OR DO: Test Expression
pric_new=2

AND DO: Assign Variable
pric_new_s:=50

OR DO: Test Expression
pric_new=3

AND DO: Assign Variable
pric_new_s:=100

[179] Pricing objective **Sp**
IF DO: Menu Question pric_obj

AND DO: Test Expression
pric_obj=1

OR DO: Test Expression
pric_obj=2

AND DO: Assign Variable
pric_obj_s:=50

OR DO: Test Expression
pric_obj=3

AND DO: Assign Variable
pric_obj_s:=100

[180] Pricing objectives **Sp**
IF DO: Menu Question pric_strat_2_1

AND DO: Test Expression
pric_strat_2_1=1

AND [182] pricing objectives score

AND [181] pricing objectives evaluation

AND DO: Assign Variable
prob\$="Pricing objectives"

AND DO: Assign Variable
probno:=1

AND [280] update level 3 pricing strategy array

OR DO: Test Expression
pric_strat_2_1=3

AND [106] initialise variables

AND [179] Pricing objective

AND [52] calculate pricing objectives score

```

AND          [ 181] pricing objectives evaluation
AND          DO: Assign Variable
             prob$:="Pricing objectives"
AND          DO: Assign Variable
             probno:=1
AND          [ 280] update level 3 pricing strategy array

OR           DO: Test Expression
             pric_strat_2_1=2
AND          [ 28] assign pricing objectives score
AND          [ 181] pricing objectives evaluation
AND          DO: Assign Variable
             prob$:="Pricing objectives"
AND          DO: Assign Variable
             probno:=1
AND          [ 280] update level 3 pricing strategy array

```

```

[ 181] pricing objectives evaluation
IF          [ 90] evaluate score
AND         DO: Display Form

```

```

[ 182] pricing objectives score          Sp
IF          DO: Assign Variable
             score:=0
AND         DO: Assign Variable
             price_obj_s:=0

```

```

[ 183] pricing Strategy          Sp
IF          DO: Menu Question pric_strat_1

AND         DO: Test Expression
             pric_strat_1=1
AND         [ 185] pricing strategy score
AND         [ 184] Pricing Strategy evaluation
AND         DO: Assign Variable
             prob$:="Pricing Strategy"
AND         DO: Assign Variable
             probno:=4
AND         [ 275] update level 2 array

OR          DO: Test Expression
             pric_strat_1=3
AND         [ 180] Pricing objectives
AND         [ 174] Price setting
AND         [ 173] Price changes and discounts
AND         [ 106] initialise variables
AND         [ 53] calculate pricing strategy score
AND         [ 184] Pricing Strategy evaluation
AND         DO: Assign Variable
             prob$:="Pricing Strategy"
AND         DO: Assign Variable
             probno:=4

```

AND [275] update level 2 array
 OR DO: Test Expression
 pric_strat_1=2
 AND [29] assign pricing strategy score
 AND [184] Pricing Strategy evaluation
 AND DO: Assign Variable
 prob\$:="Pricing Strategy"
 AND DO: Assign Variable
 probno:=4
 AND [275] update level 2 array

[184] Pricing Strategy evaluation
 IF [90] evaluate score
 AND DO: Display Form

[185] pricing strategy score Sp
 IF DO: Assign Variable
 score:=0

[186] print
 IF DO: Menu Question printer

 AND [189] print to printer
 OR [188] print to file

[187] Print report Sp
 IF DO: Menu Question printout

 AND DO: Test Expression
 printout=1
 AND [186] print
 OR DO: Succeed

[188] print to file

[189] print to printer

[190] product development objectives Sp
 IF DO: Menu Question prod_dev_obj

 AND DO: Test Expression
 prod_dev_obj=1

OR DO: Test Expression
prod_dev_obj=2
AND DO: Assign Variable
prod_dev_obj_s:=50

OR DO: Test Expression
prod_dev_obj=3
AND DO: Assign Variable
prod_dev_obj_s:=100

[191] product elimination Sp
IF DO: Menu Question prod_elim

AND DO: Test Expression
prod_elim=1

OR DO: Test Expression
prod_elim=2
AND DO: Assign Variable
prod_elim_s:=50

OR DO: Test Expression
prod_elim=3
AND DO: Assign Variable
prod_elim_s:=100

[192] product idea generation Sp
IF DO: Menu Question prod_gen

AND DO: Test Expression
prod_gen=1

OR DO: Test Expression
prod_gen=2
AND DO: Assign Variable
prod_gen_s:=50

OR DO: Test Expression
prod_gen=3
AND DO: Assign Variable
prod_gen_s:=100

[193] product performance Sp
IF DO: Menu Question prod_perfs

AND DO: Test Expression
prod_perfs=1

OR DO: Test Expression
prod_perfs=2

AND DO: Assign Variable
prod_perfs_s:=50

OR DO: Test Expression
prod_perfs=3

AND DO: Assign Variable
prod_perfs_s:=100

[194] **product performance score** Sp
IF DO: Assign Variable
score:=0

AND DO: Assign Variable
prod_perf_s:=0

[195] **product range** Sp
IF DO: Menu Question prod_mg

AND DO: Test Expression
prod_mg=1

OR DO: Test Expression
prod_mg=2

AND DO: Assign Variable
prod_mg_s:=50

OR DO: Test Expression
prod_mg=3

AND DO: Assign Variable
prod_mg_s:=100

[196] **product sales objectives** Sp
IF DO: Menu Question prod_sales_obj

AND DO: Test Expression
prod_sales_obj=1

OR DO: Test Expression
prod_sales_obj=2

AND DO: Assign Variable
prod_sales_obj_s:=50

OR DO: Test Expression
prod_sales_obj=3

AND DO: Assign Variable
prod_sales_obj_s:=100

[197] **Product Strategy** Sp
IF DO: Menu Question prod_strat_1

```

AND          DO: Test Expression
prod_strat_1=1
AND          [ 199] product strategy score
AND          [ 198] Product Strategy evaluation
AND          DO: Assign Variable
prob$:="Product Strategy"
AND          DO: Assign Variable
probno:=3
AND          [ 275] update level 2 array

OR           DO: Test Expression
prod_strat_1=3
AND          [ 167] performance of present product
AND          [ 285] viability of the range offered
AND          [ 155] new product development
AND          [ 106] initialise variables
AND          [ 55] calculate product strategy score
AND          [ 198] Product Strategy evaluation
AND          DO: Assign Variable
prob$:="Product Strategy"
AND          DO: Assign Variable
probno:=3
AND          [ 275] update level 2 array

OR           DO: Test Expression
prod_strat_1=2
AND          [ 31] assign product strategy score
AND          [ 198] Product Strategy evaluation
AND          DO: Assign Variable
prob$:="Product Strategy"
AND          DO: Assign Variable
probno:=3
AND          [ 275] update level 2 array

```

[198] Product Strategy evaluation

```

IF           [ 90] evaluate score
AND          DO: Display Form

```

[199] product strategy score Sp

```

IF           DO: Assign Variable
score:=0

```

[200] products price/quality performance Sp

```

IF           DO: Menu Question prod_pric_qual

```

```

AND          DO: Test Expression
prod_pric_qual=1

```

```

OR           DO: Test Expression
prod_pric_qual=2

```

```

OR           DO: Test Expression
prod_pric_qual=3

```

AND DO: Assign Variable
prod_pric_qual_s:=50

OR DO: Test Expression
prod_pric_qual=4

AND DO: Assign Variable
prod_pric_qual_s:=100

[201] profitability objectives Sp
IF DO: Menu Question prof_obj

AND DO: Test Expression
prof_obj=1

AND DO: Succeed

OR DO: Test Expression
prof_obj=2

AND DO: Assign Variable
prof_obj_s:=50

OR DO: Test Expression
prof_obj=3

AND DO: Assign Variable
prof_obj_s:=100

[202] promotion evaluation
IF [90] evaluate score
AND DO: Display Form

[203] Public relations Sp
IF DO: Menu Question mkt_com_2_1

AND DO: Test Expression
mkt_com_2_1=1

AND [204] public relations score

AND [170] pr evaluation

AND DO: Assign Variable
prob\$:="Public relations"

AND DO: Assign Variable
probno:=1

AND [278] update level 3 marketing communications array

OR DO: Test Expression
mkt_com_2_1=3

AND [106] initialise variables

AND [98] image of the company

AND [99] image required

AND [97] identifying targets

AND [56] calculate public relations score

AND [170] pr evaluation

AND DO: Assign Variable
prob\$:="Public relations"

AND DO: Assign Variable
probno:=1

AND [278] update level 3 marketing communications array

OR DO: Test Expression
 mkt_com_2_1=2
 AND [32] assign public relations score
 AND [170] pr evaluation
 AND DO: Assign Variable
 prob\$:="Public relations"
 AND DO: Assign Variable
 probno:=1
 AND [278] update level 3 marketing communications array

[204] public relations score Sp

IF DO: Assign Variable
 score:=0
 AND DO: Assign Variable
 pr_s:=0

[205] quality of sales promotion Sp

IF DO: Menu Question prom_qual

 AND DO: Test Expression
 prom_qual=1

 OR DO: Test Expression
 prom_qual=2
 AND DO: Assign Variable
 prom_qual_s:=50

 OR DO: Test Expression
 prom_qual=3
 AND DO: Assign Variable
 prom_qual_s:=100

[206] restart Sp

IF DO: Menu Question exit

 AND DO: Test Expression
 exit=2
 AND DO: Global Restart

 OR DO: Test Expression
 exit=3
 AND DO: Quit

 OR DO: Test Expression
 exit=1
 AND DO: Test Expression
 load("ESAD12")

[207] review policies Sp

IF DO: Menu Question rev_pol

 AND DO: Test Expression

```

                                rev_pol=1
OR                                DO: Test Expression
                                rev_pol=2
AND                               DO: Assign Variable
                                rev_pol_s:=50

OR                                DO: Test Expression
                                rev_pol=3
AND                               DO: Assign Variable
                                rev_pol_s:=100

```

[208] role of advertising Sp
 IF DO: Menu Question adv_role

```

AND                                DO: Test Expression
                                adv_role=1

OR                                DO: Test Expression
                                adv_role=2
AND                               DO: Assign Variable
                                adv_role_s:=50

OR                                DO: Test Expression
                                adv_role=3
AND                               DO: Assign Variable
                                adv_role_s:=100

```

[209] role of sales promotion Sp
 IF DO: Menu Question prom_role

```

AND                                DO: Test Expression
                                prom_role=1

OR                                DO: Test Expression
                                prom_role=2
AND                               DO: Assign Variable
                                prom_role_s:=50

OR                                DO: Test Expression
                                prom_role=3
AND                               DO: Assign Variable
                                prom_role_s:=100

```

[210] sales aids Sp
 IF DO: Menu Question sales_aid

```

AND                                DO: Test Expression
                                sales_aid=1

```

OR DO: Test Expression
 sales_aid=2
AND DO: Assign Variable
 sales_aid_s:=50

OR DO: Test Expression
 sales_aid=3
AND DO: Assign Variable
 sales_aid_s:=100

[211] sales objectives **Sp**
IF DO: Menu Question sales_obj

AND DO: Test Expression
 sales_obj=1

OR DO: Test Expression
 sales_obj=2
AND DO: Assign Variable
 sales_obj_s:=50

OR DO: Test Expression
 sales_obj=3
AND DO: Assign Variable
 sales_obj_s:=100

[212] sales organisation **Sp**
IF DO: Menu Question Sales_org

AND DO: Test Expression
 Sales_org=1
AND DO: Succeed

OR DO: Test Expression
 Sales_org=2
AND DO: Assign Variable
 Sales_org_s:=50

OR DO: Test Expression
 Sales_org=3
AND DO: Assign Variable
 Sales_org_s:=100

[213] Sales promotion **Sp**
IF DO: Menu Question mkt_com_2_3

AND DO: Test Expression
 mkt_com_2_3=1
AND [214] sales promotion score
AND [202] promotion evaluation

```

AND          DO: Assign Variable
prob$:="Sales promotion"
AND          DO: Assign Variable
probno:=3
AND          [ 278] update level 3 marketing communications array

OR           DO: Test Expression
mkt_com_2_3=3
AND          [ 106] initialise variables
AND          [ 209] role of sales promotion
AND          [ 205] quality of sales promotion
AND          [ 89] evaluation of promotion campaign
AND          [ 57] calculate sales promotion score
AND          [ 202] promotion evaluation
AND          DO: Assign Variable
prob$:="Sales promotion"
AND          DO: Assign Variable
probno:=3
AND          [ 278] update level 3 marketing communications array

OR           DO: Test Expression
mkt_com_2_3=2
AND          [ 33] assign sales promotion score
AND          [ 202] promotion evaluation
AND          DO: Assign Variable
prob$:="Sales promotion"
AND          DO: Assign Variable
probno:=3
AND          [ 278] update level 3 marketing communications array

```

```

[ 214] sales promotion score          Sp
IF          DO: Assign Variable
score:=0
AND          DO: Assign Variable
prom_s:=0

```

```

[ 215] Sales support activities          Sp
IF          DO: Menu Question fsd_2_2

AND          DO: Test Expression
fsd_2_2=1
AND          [ 216] sales support activities score
AND          [ 217] sales support evaluation
AND          DO: Assign Variable
prob$:="Sales support activities"
AND          DO: Assign Variable
probno:=2
AND          [ 276] update level 3 fsd array

OR           DO: Test Expression
fsd_2_2=3
AND          [ 106] initialise variables
AND          [ 210] sales aids
AND          [ 58] calculate sales support activities score

```

```

AND          [ 217] sales support evaluation
AND          DO: Assign Variable
prob$:="Sales support activities"
AND          DO: Assign Variable
probno:=2
AND          [ 276] update level 3 fsd array

OR           DO: Test Expression
fsd_2_2=2
AND          [ 34] assign sales support activities score
AND          [ 217] sales support evaluation
AND          DO: Assign Variable
prob$:="Sales support activities"
AND          DO: Assign Variable
probno:=2
AND          [ 276] update level 3 fsd array

[ 216] sales support activities score      Sp
IF          DO: Assign Variable
score:=0
AND         DO: Assign Variable
sales_sup_s:=0

[ 217] sales support evaluation
IF          [ 90] evaluate score
AND         DO: Display Form

[ 218] search for opportunities to enhance mkt mix      Sp
IF          DO: Menu Question inf_2_2

AND         DO: Test Expression
inf_2_2=1
AND         [ 70] enhance market mix score
AND         [ 219] search mix evaluation
AND         DO: Assign Variable
prob$:="Search for opportunities to enhance marketing mix"
AND         DO: Assign Variable
probno:=2
AND         [ 277] update level 3 information array

OR          DO: Test Expression
inf_2_2=3
AND         [ 106] initialise variables
AND         [ 68] distribution channels
AND         [ 153] media
AND         [ 177] pricing
AND         [ 38] Calculate enhance market mix score
AND         [ 219] search mix evaluation
AND         DO: Assign Variable
prob$:="Search for opportunities to enhance marketing mix"
AND         DO: Assign Variable
probno:=2
AND         [ 277] update level 3 information array

```


OR DO: Test Expression
 inf_2_2=2
AND [14] assign enhance market mix score
AND [219] search mix evaluation
AND DO: Assign Variable
 probno:=2
AND DO: Assign Variable
 prob\$="Search for opportunities to enhance marketing mix"
AND [277] update level 3 information array

[219] search mix evaluation

IF [90] evaluate score
AND DO: Display Form

[220] senior management

Sp

IF DO: Menu Question sen_mgmt

AND DO: Test Expression
 sen_mgmt=1
AND DO: Succeed

OR DO: Test Expression
 sen_mgmt=2
AND DO: Assign Variable
 sen_mgmt_s:=50

OR DO: Test Expression
 sen_mgmt=3
AND DO: Assign Variable
 sen_mgmt_s:=100

[221] Set line to next spot in array

Sp

IF DO: Test Expression
 I<10
AND DO: Test Expression
 arrclr(arr1\$[#])
AND DO: Assign Variable
 arr1\$[10-I]:=I1\$
AND DO: Assign Variable
 arr1\$[11-I]:=I2\$
AND DO: Assign Variable
 I:=I+1

[222] set up test data

IF DO: Assign Variable
 sen_mgmt:=3
AND DO: Assign Variable
 mkt_info:=3
AND DO: Assign Variable
 Sales_org:=3
AND DO: Assign Variable

prof_obj:=3
 AND DO: Assign Variable
 prod_sales_obj:=2
 AND DO: Assign Variable
 prod_dev_obj:=1
 AND DO: Assign Variable
 obj_set_proc:=2
 AND DO: Assign Variable
 mkt_plan:=2
 AND DO: Assign Variable
 mkt_strat:=3
 AND DO: Assign Variable
 mkt_struct:=2
 AND DO: Assign Variable
 mkt_att:=1
 AND DO: Assign Variable
 mkt_trend:=3
 AND DO: Assign Variable
 dist_chan:=1
 AND DO: Assign Variable
 media:=1
 AND DO: Assign Variable
 pricing:=1
 AND DO: Assign Variable
 mkt_planning:=2
 AND DO: Assign Variable
 mgmt_react:=3
 AND DO: Assign Variable
 mkt_stand:=1
 AND DO: Assign Variable
 prod_dem:=2
 AND DO: Assign Variable
 prod_pric_qual:=1
 AND DO: Assign Variable
 prod_mng:=2
 AND DO: Assign Variable
 prod_elim:=1
 AND DO: Assign Variable
 prod_perf:=3
 AND DO: Assign Variable
 new_prod:=3
 AND DO: Assign Variable
 prod_gen:=1
 AND DO: Assign Variable
 prod_laun:=1
 AND DO: Assign Variable
 pric_obj:=3
 AND DO: Assign Variable
 approach:=2
 AND DO: Assign Variable
 pric_new:=3
 AND DO: Assign Variable
 pric_chng:=3
 AND DO: Assign Variable
 disc:=3
 AND DO: Assign Variable
 sales_obj:=1
 AND DO: Assign Variable
 train:=3

```

AND          DO: Assign Variable
motiv:=1
AND          DO: Assign Variable
sale_aid:=1
AND          DO: Assign Variable
dist_view:=1
AND          DO: Assign Variable
rev_pol:=1
AND          DO: Assign Variable
plan_chan:=1
AND          DO: Assign Variable
image:=3
AND          DO: Assign Variable
im_req:=2
AND          DO: Assign Variable
id_targ:=2
AND          DO: Assign Variable
adv_role:=2
AND          DO: Assign Variable
adv_con:=1
AND          DO: Assign Variable
adv_media:=3
AND          DO: Assign Variable
prom_role:=2
AND          DO: Assign Variable
prom_qual:=2
AND          DO: Assign Variable
prom_eval:=2

```

[223] show advertising Sp

```

IF          DO: Test Expression
mkt_com_2_2<3
AND          DO: Test Expression
beep(523,4)
AND          DO: Display Form

AND          DO: Succeed

```

[224] show appropriate planning Sp

```

IF          DO: Test Expression
or_2_3<3
AND          DO: Test Expression
beep(523,4)
AND          DO: Display Form

AND          DO: Succeed

```

[225] show distribution channel policies Sp

```

IF          DO: Test Expression
fsd_2_3<3
AND          DO: Test Expression
beep(523,4)

```

AND DO: Display Form

AND DO: Succeed

[226] show enhance mix Sp

IF DO: Test Expression
inf_2_2<3

AND DO: Test Expression
beep(523,4)

AND DO: Display Form

OR DO: Display Form

AND DO: Succeed

[227] show level 2 Sp

IF DO: Assign Variable
lev_2\$=""

AND DO: Menu Question lev_2\$

[228] show level 3 Sp

IF DO: Test Expression
lev_2\$="orientation"

AND [117] level 3 orientation

AND [126] level 4 orientation

AND DO: Restart Rule

OR DO: Test Expression
lev_2\$="Information"

AND [113] level 3 information

AND [124] level 4 information

AND DO: Restart Rule

OR DO: Test Expression
lev_2\$="Product Strategy"

AND [121] level 3 product strategy

AND [128] level 4 product strategy

AND DO: Restart Rule

OR DO: Test Expression
lev_2\$="Pricing Strategy"

AND [119] level 3 pricing strategy

AND [127] level 4 pricing strategy

AND DO: Restart Rule

OR DO: Test Expression
lev_2\$="Field sales and distribution"

AND [111] level 3 field sales and distribution

AND [123] level 4 field sales and distribution

AND DO: Restart Rule

OR	DO: Test Expression lev_2\$="Marketing communication"
AND	[115] level 3 marketing communication
AND	[125] level 4 marketing communication
AND	DO: Restart Rule
OR	DO: Succeed

[229] show management of sales force Sp

IF	DO: Test Expression fsd_2_1<3
AND	DO: Test Expression beep(523,4)
AND	DO: Display Form
AND	DO: Succeed

[230] show market information Sp

IF	DO: Test Expression inf_2_3<3
AND	DO: Test Expression beep(523,4)
AND	DO: Display Form
AND	DO: Succeed

[231] show marketing concept Sp

IF	DO: Test Expression or_2_1<3
AND	DO: Test Expression beep(523,4)
AND	DO: Display Form
AND	DO: Succeed

[232] show new product development Sp

IF	DO: Test Expression prod_strat_2_3<3
AND	DO: Test Expression beep(523,4)
AND	DO: Display Form
AND	DO: Succeed

[233] show objectives Sp

IF	DO: Test Expression or_2_2<3
AND	DO: Test Expression

beep(523,4)
 AND DO: Display Form
 AND DO: Succeed

[234] show performance of product Sp
 IF DO: Test Expression
 prod_strat_2_1<3
 AND DO: Test Expression
 beep(523,4)
 AND DO: Display Form
 AND DO: Succeed

[235] show price setting Sp
 IF DO: Test Expression
 pric_strat_2_2<3
 AND DO: Test Expression
 beep(523,4)
 AND DO: Display Form
 AND DO: Succeed

[236] show prices changes and discounts Sp
 IF DO: Test Expression
 pric_strat_2_3<3
 AND DO: Test Expression
 beep(523,4)
 AND DO: Display Form
 AND DO: Succeed

[237] show pricing objectives Sp
 IF DO: Test Expression
 pric_strat_2_1<3
 AND DO: Test Expression
 beep(523,4)
 AND DO: Display Form
 AND DO: Succeed

[238] show public relations Sp
 IF DO: Test Expression
 mkt_com_2_1<3
 AND DO: Test Expression

beep(523,4)
AND DO: Display Form

AND DO: Succeed

[239] show report Sp

IF [227] show level 2

AND DO: Test Expression

lev_2\$="Quit Menu"

AND DO: Succeed

OR [228] show level 3

AND DO: Restart Rule

[240] show sales promotion Sp

IF DO: Test Expression

mkt_com_2_3<3

AND DO: Test Expression

beep(523,4)

AND DO: Display Form

AND DO: Succeed

[241] show sales support activities Sp

IF DO: Test Expression

fsd_2_2<3

AND DO: Test Expression

beep(523,4)

AND DO: Display Form

AND DO: Succeed

[242] show study market environment Sp

IF DO: Test Expression

inf_2_1<3

AND DO: Test Expression

beep(523,4)

AND DO: Display Form

AND DO: Succeed

[243] show viability of range Sp

IF DO: Test Expression

prod_strat_2_2<3

AND DO: Test Expression

beep(523,4)

AND DO: Display Form

AND DO: Succeed

[244] sort the level 2 array Sp
IF DO: Test Expression
sort2(level2score[#, #], 1, 1, 1)

OR DO: Succeed

[245] sort the level3 FSD array Sp
IF DO: Test Expression
sort2(level3_fsd_score[#, #], 1, 1, 1)

OR DO: Succeed

[246] sort the level3 information array Sp
IF DO: Test Expression
sort2(level3_inf_score[#, #], 1, 1, 1)

OR DO: Succeed

[247] sort the level3 marketing communications array Sp
IF DO: Test Expression
sort2(level3_mkt_com_score[#, #], 1, 1, 1)

OR DO: Succeed

[248] sort the level3 orientation array Sp
IF DO: Test Expression
sort2(level3_or_score[#, #], 1, 1, 1)

OR DO: Succeed

[249] sort the level3 pricing strategy array Sp
IF DO: Test Expression
sort2(level3_pric_strat_score[#, #], 1, 1, 1)

OR DO: Succeed

[250] sort the level3 product strategy array Sp
IF DO: Test Expression
sort2(level3_prod_strat_score[#, #], 1, 1, 1)

OR DO: Succeed

[251] study environment evaluation

IF [90] evaluate score
AND DO: Display Form

[252] Study market environment Sp

IF DO: Menu Question inf_2_1

AND DO: Test Expression
inf_2_1=1

AND [135] market environment score
AND [251] study environment evaluation
AND DO: Assign Variable

prob\$:="Study of market environment"

AND DO: Assign Variable

probno:=1

AND [277] update level 3 information array

OR DO: Test Expression
inf_2_1=3

AND [106] initialise variables
AND [138] Market structure
AND [134] market attitudes
AND [139] market trends
AND [42] calculate market environment score
AND [251] study environment evaluation
AND DO: Assign Variable

prob\$:="Study of market environment"

AND DO: Assign Variable

probno:=1

AND [277] update level 3 information array

OR DO: Test Expression
inf_2_1=2

AND [18] assign market environment score
AND [251] study environment evaluation
AND DO: Assign Variable

prob\$:="Study of market environment"

AND DO: Assign Variable

probno:=1

AND [277] update level 3 information array

[253] test advertising Sp

IF [208] role of advertising
AND [62] control of the advertising activities
AND [273] the media we use
AND [71] evaluate advertising

[254] test distribution channel policies Sp

IF [69] distributors view of policies
AND [207] review policies
AND [168] plan channels
AND [72] evaluate distribution channel policies

- [255] test enhance mix Sp
 IF [68] distribution channels
 AND [153] media
 AND [177] pricing
 AND [87] evaluate search to enhance mix
- [256] Test for expert chooses Sp
 IF DO: Test Expression
 main=1
- [257] Test for User suggests Sp
 IF DO: Test Expression
 main=2
- [258] test management of sales force Sp
 IF [211] sales objectives
 AND [274] training of the sales force
 AND [154] motivation of the sales force
 AND [73] evaluate management of sales force
- [259] test market environment Sp
 IF [138] Market structure
 AND [134] market attitudes
 AND [139] market trends
 AND [74] evaluate market environment
- [260] test market information Sp
 IF [137] market planning
 AND [133] management reaction
 AND [75] evaluate market information
- [261] test marketing concept Sp
 IF [220] senior management
 AND [147] marketing information
 AND [212] sales organisation
 AND [76] evaluate marketing concept
- [262] test marketing objectives Sp
 IF [201] profitability objectives
 AND [196] product sales objectives
 AND [190] product development objectives
 AND [77] evaluate marketing objectives

- [263] test marketing planning Sp
 IF [159] objective setting process
 AND [137] market planning
 AND [152] marketing strategy
 AND [78] evaluate marketing planning
- [264] test new product development
 IF [287] when develop new products
 AND [192] product idea generation
 AND [158] new product launch
 AND [79] evaluate new product development
- [265] test price changes and discounts Sp
 IF [172] price changes
 AND [64] discounts
 AND [80] evaluate price changes and discounts
- [266] test price setting Sp
 IF [10] approach to price setting
 AND [178] pricing new products
 AND [81] evaluate price setting
- [267] test pricing objectives Sp
 IF [179] Pricing objective
 AND [82] evaluate pricing objectives
- [268] test product performance Sp
 IF [151] marketing standing of our product
 AND [63] demand for our products
 AND [200] products price/quality performance
 AND [83] evaluate product performance
- [269] test public relations Sp
 IF [98] image of the company
 AND [99] image required
 AND [97] identifying targets
 AND [84] evaluate public relations
- [270] test sales promotion
 IF [209] role of sales promotion
 AND [205] quality of sales promotion
 AND [89] evaluation of promotion campaign
 AND [85] evaluate sales promotion
- [271] test sales support activities Sp

IF [210] sales aids
AND [86] evaluate sales support activities

[272] test viability of the range Sp
IF [195] product range
AND [191] product elimination
AND [193] product performance
AND [88] evaluate viability of the range

[273] the media we use Sp
IF DO: Menu Question adv_media

AND DO: Test Expression
adv_media=1

OR DO: Test Expression
adv_media=2

AND DO: Assign Variable
adv_media_s:=50

OR DO: Test Expression
adv_media=3

AND DO: Assign Variable
adv_media_s:=100

[274] training of the sales force Sp
IF DO: Menu Question train

AND DO: Test Expression
train=1

OR DO: Test Expression
train=2

AND DO: Assign Variable
train_s:=50

OR DO: Test Expression
train=3

AND DO: Assign Variable
train_s:=100

[275] update level 2 array Sp
IF DO: Assign Variable
level2\$[probno]:=prob\$
AND DO: Assign Variable
level2score[probno,0]:=probno
AND DO: Assign Variable
level2score[probno,1]:=score
AND [244] sort the level 2 array

[276] **update level 3 fsd array** **Sp**
IF DO: Assign Variable
level3_fsd\$[probno]:=prob\$
AND DO: Assign Variable
level3_fsd_score[probno,0]:=probno
AND DO: Assign Variable
level3_fsd_score[probno,1]:=score
AND [245] sort the level3 FSD array

[277] **update level 3 information array** **Sp**
IF DO: Assign Variable
level3_inf\$[probno]:=prob\$
AND DO: Assign Variable
level3_inf_score[probno,0]:=probno
AND DO: Assign Variable
level3_inf_score[probno,1]:=score
AND [246] sort the level3 information array

[278] **update level 3 marketing communications array** **Sp**
IF DO: Assign Variable
level3_mkt_com\$[probno]:=prob\$
AND DO: Assign Variable
level3_mkt_com_score[probno,0]:=probno
AND DO: Assign Variable
level3_mkt_com_score[probno,1]:=score
AND [247] sort the level3 marketing communications array

[279] **Update level 3 orientation array** **Sp**
IF DO: Assign Variable
level3_or\$[probno]:=prob\$
AND DO: Assign Variable
level3_or_score[probno,0]:=probno
AND DO: Assign Variable
level3_or_score[probno,1]:=score
AND [248] sort the level3 orientation array

[280] **update level 3 pricing strategy array** **Sp**
IF DO: Assign Variable
level3_pric_strat\$[probno]:=prob\$
AND DO: Assign Variable
level3_pric_strat_score[probno,0]:=probno
AND DO: Assign Variable
level3_pric_strat_score[probno,1]:=score
AND [249] sort the level3 pricing strategy array

[281] **update level 3 product strategy array** **Sp**
IF DO: Assign Variable

```

        level3_prod_strat$[probno]:=prob$
AND      DO: Assign Variable
        level3_prod_strat_score[probno,0]:=probno
AND      DO: Assign Variable
        level3_prod_strat_score[probno,1]:=score
AND      [ 250] sort the level3 product strategy array

```

```

[ 282] use market information      Sp
      IF      DO: Menu Question inf_2_3

      AND      DO: Test Expression
      inf_2_3=1
      AND      [ 136] market information score
      AND      [ 148] marketing information evaluation
      AND      DO: Assign Variable
      prob$:="Use of market information"
      AND      DO: Assign Variable
      probno:=3
      AND      [ 277] update level 3 information array

      OR      DO: Test Expression
      inf_2_3=3
      AND      [ 106] initialise variables
      AND      [ 137] market planning
      AND      [ 133] management reaction
      AND      [ 43] calculate market information score
      AND      [ 148] marketing information evaluation
      AND      DO: Assign Variable
      prob$:="Use of market information"
      AND      DO: Assign Variable
      probno:=3
      AND      [ 277] update level 3 information array

      OR      DO: Test Expression
      inf_2_3=2
      AND      [ 19] assign market information score
      AND      [ 148] marketing information evaluation
      AND      DO: Assign Variable
      prob$:="Use of market information"
      AND      DO: Assign Variable
      probno:=3
      AND      [ 277] update level 3 information array

```

```

[ 283] User suggests      Sp
      IF      [ 257] Test for User suggests
      AND      [ 108] level 2
      AND      [ 110] level 3
      AND      DO: Restart Rule

      OR      DO: Succeed

```

```

[ 284] viability evaluation
      IF      [ 90] evaluate score

```

AND DO: Display Form

[285] viability of the range offered Sp
IF DO: Menu Question prod_strat_2_2

AND DO: Test Expression
prod_strat_2_2=1
AND [286] viability score
AND [284] viability evaluation
AND DO: Assign Variable
prob\$:="Viability of the range offered"
AND DO: Assign Variable
probno:=2
AND [281] update level 3 product strategy array

OR DO: Test Expression
prod_strat_2_2=3
AND [106] initialise variables
AND [195] product range
AND [191] product elimination
AND [193] product performance
AND [59] calculate viability score
AND [284] viability evaluation
AND DO: Assign Variable
prob\$:="Viability of the range offered"
AND DO: Assign Variable
probno:=2
AND [281] update level 3 product strategy array

OR DO: Test Expression
prod_strat_2_2=2
AND [35] assign viability score
AND [284] viability evaluation
AND DO: Assign Variable
prob\$:="Viability of the range offered"
AND DO: Assign Variable
probno:=2
AND [281] update level 3 product strategy array

[286] viability score Sp
IF DO: Assign Variable
score:=0
AND DO: Assign Variable
rng_viab_s:=0

[287] when develop new products Sp
IF DO: Menu Question new_prod

AND DO: Test Expression
new_prod=1

```

OR          DO: Test Expression
new_prod=2
AND         DO: Assign Variable
new_prod_s:=50

OR          DO: Test Expression
new_prod=3
AND         DO: Assign Variable
new_prod_s:=100

```

```

[ 288]      CRYSTAL MASTER RULE      Sp
          IF      [ 146] marketing function ok

```

VARIABLE

```

[var] arr1$[12]

[var] level2$[10]

[var] level2score[10,10]

[var] level3_fsd$[10]

[var] level3_fsd_score[10,10]

[var] level3_inf$[10]

[var] level3_inf_score[10,10]

[var] level3_mkt_com$[10]

[var] level3_mkt_com_score[10,10]

[var] level3_or$[10]

[var] level3_or_score[10,10]

[var] level3_pric_strat$[10]

[var] level3_pric_strat_score[10,10]

[var] level3_prod_strat$[10]

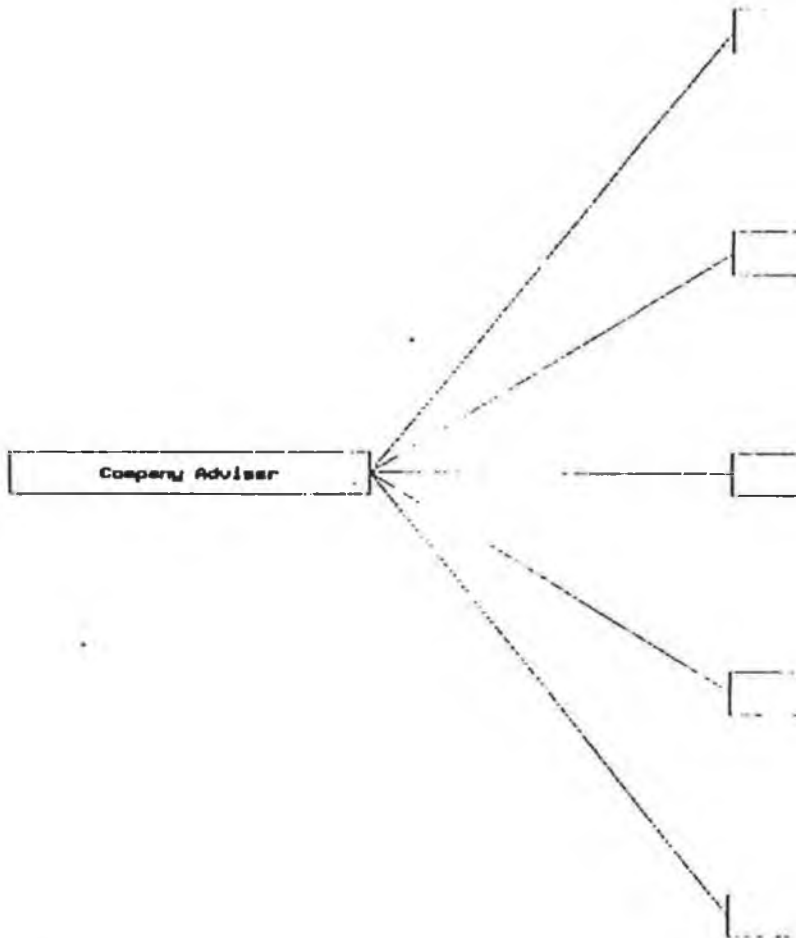
[var] level3_prod_strat_score[10,10]

```

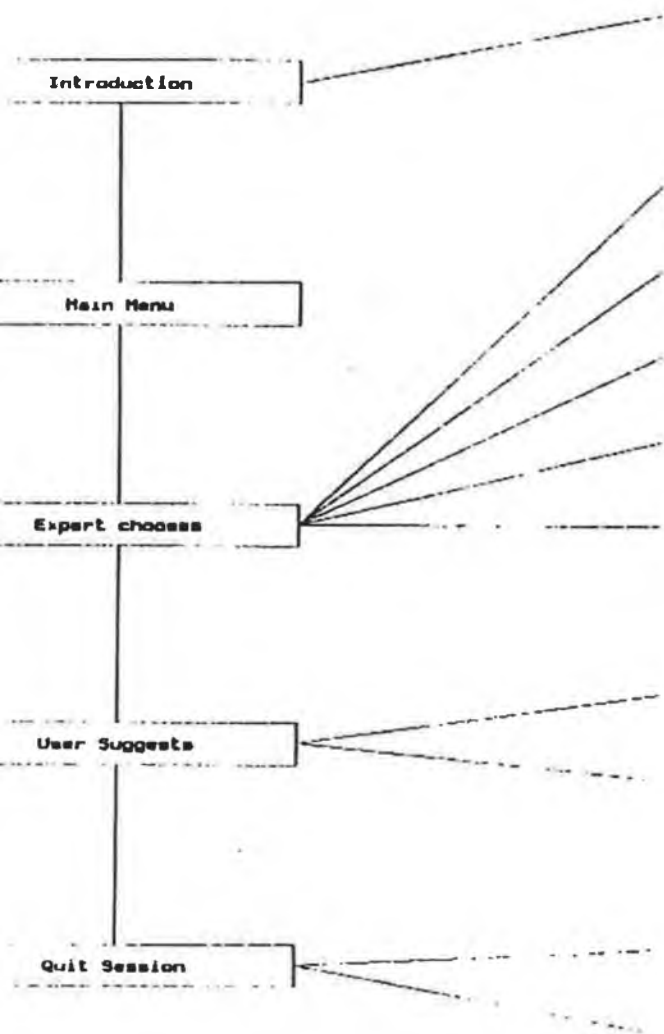

Appendix E.

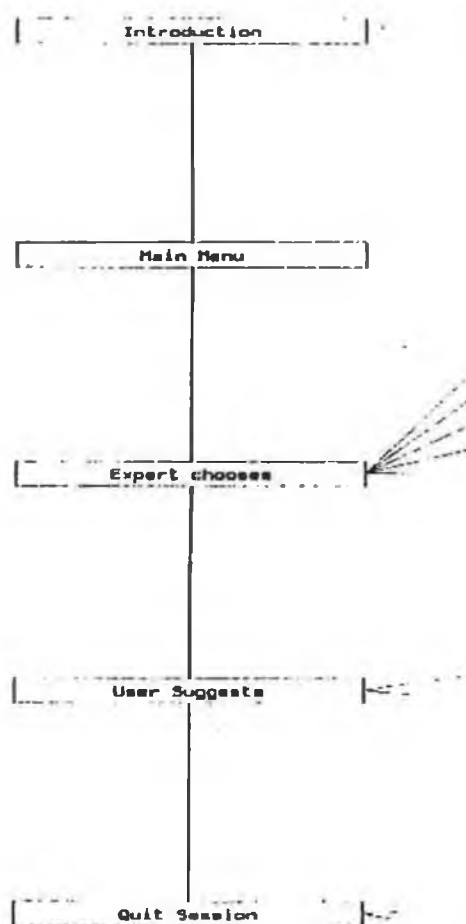
Graphical Rule Display
ESAD Top Level

Company Adviser



```
graph LR; A[Company Adviser] --- B1[ ]; A --- B2[ ]; A --- B3[ ]; A --- B4[ ]; A --- B5[ ]
```





Logo

Eesd takes control

OET ANALYSIS DATA

Autosave

apply the answers to the fun

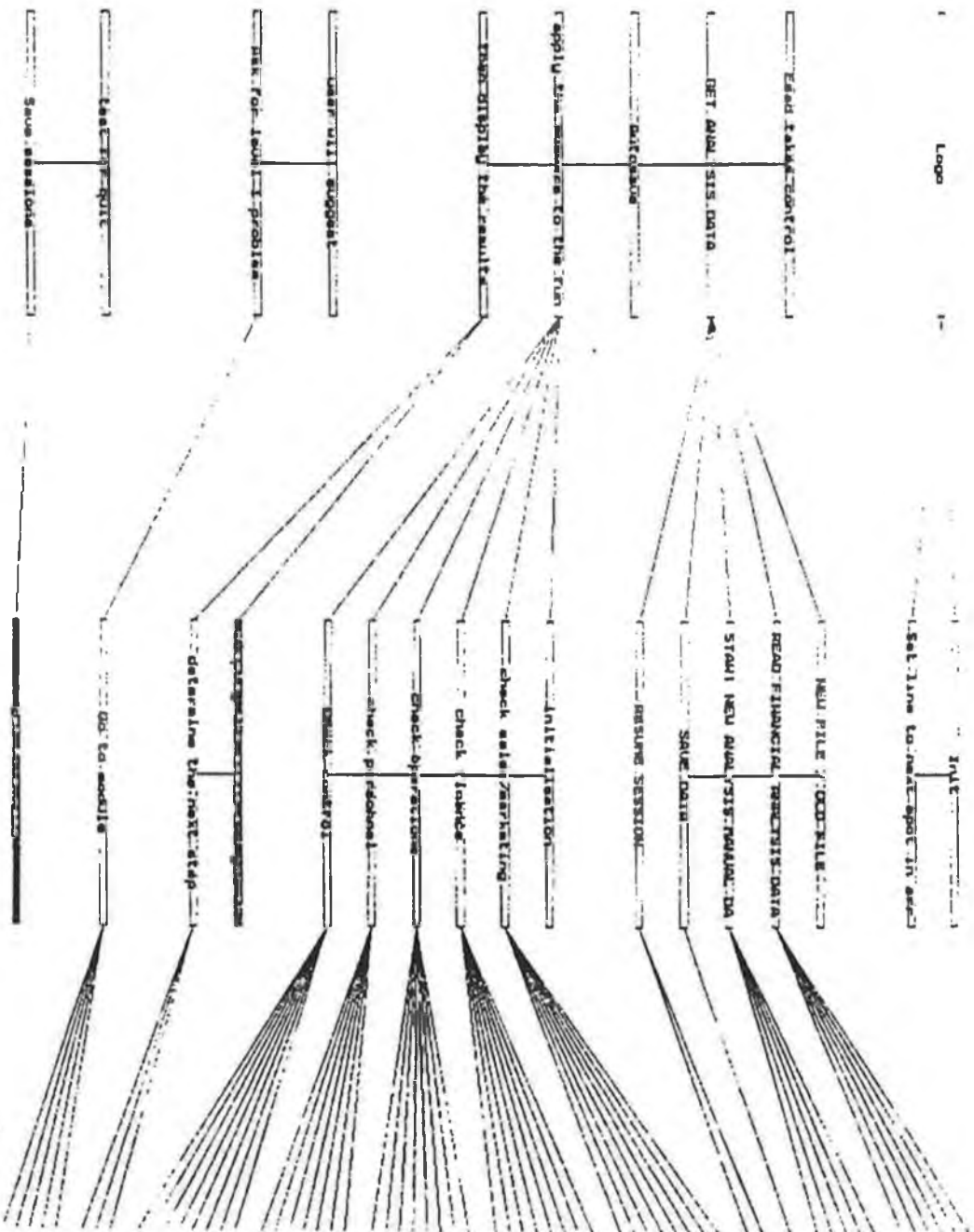
then display the results

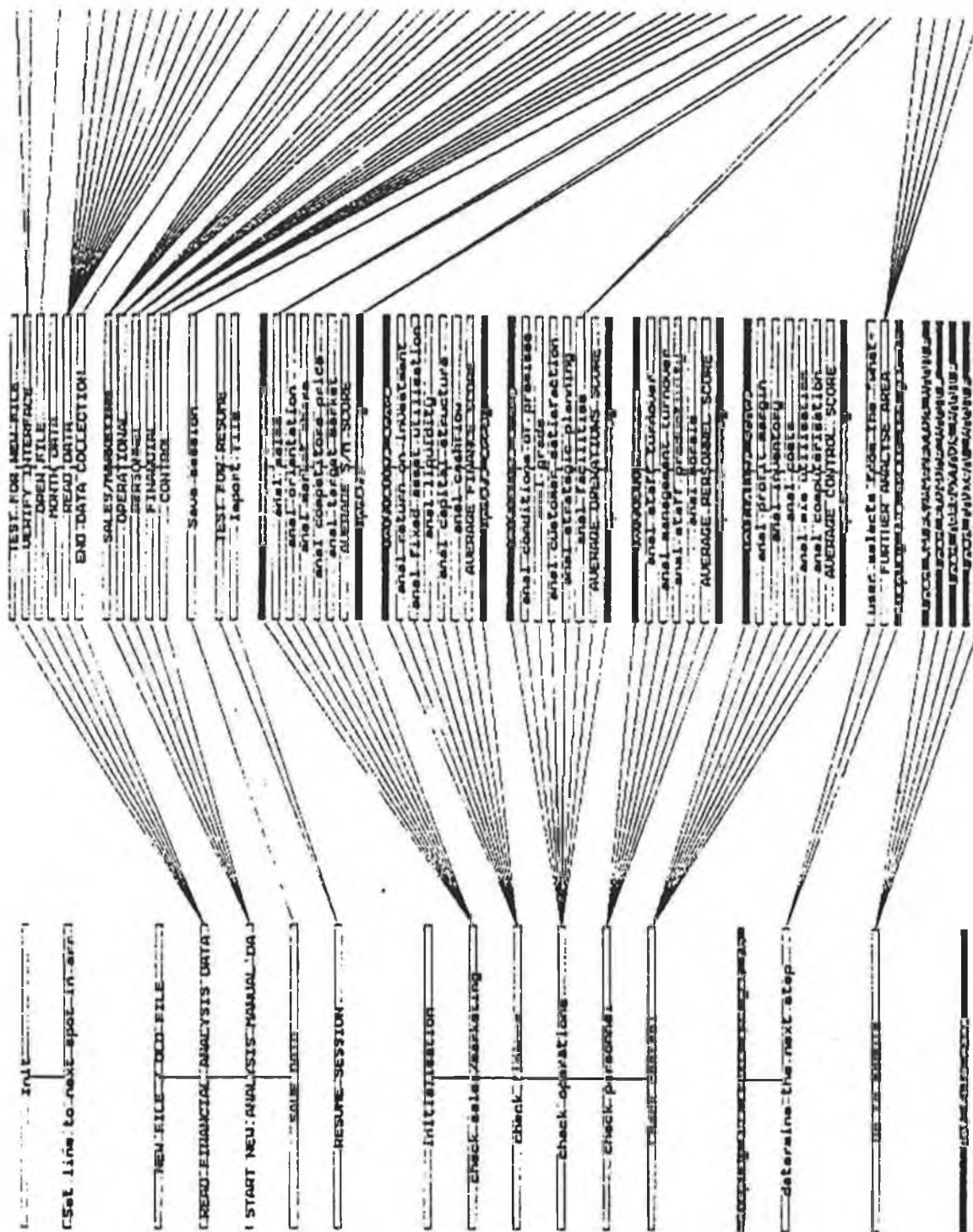
user will suggest

Ask for level 1 problem

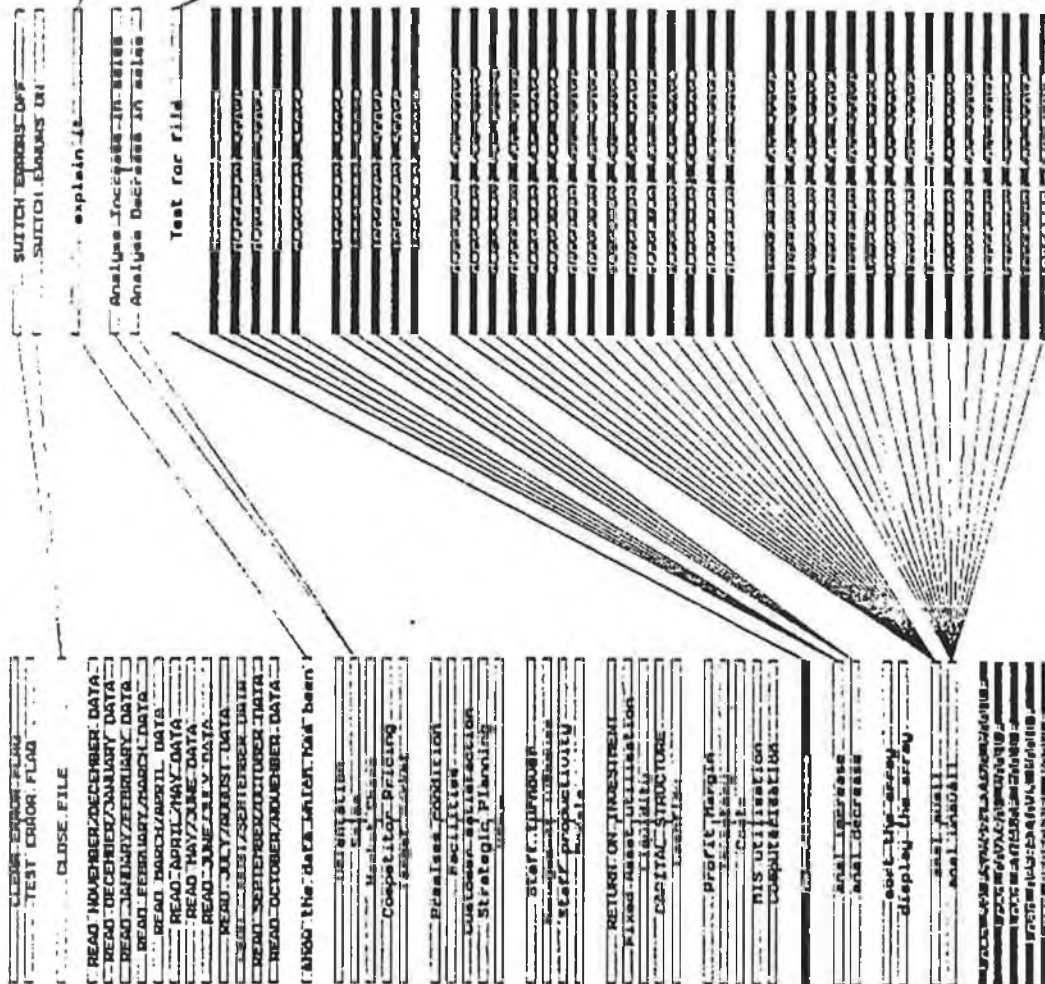
test for quit

Save sessions





[illegible]



~~Wait until data is required~~

File exists (CONT'D)

Appendix F.

Sample Run of System

**Expert System Based
Analysis and Diagnosis**

Would you like to

- 1) Give control to ESAD**
- 2) Suggest analysis areas**
- 3) Quit**

Please select

**Expert System Based
Analysis and Diagnosis**

What is the orientation of the company?

Market Customer **Profit** Other Don't Know

Please select

Expert System Based Analysis and Diagnosis

From the following areas, please select where sales are increasing.

- a) Accomodation.
- b) Restaurants.
- c) Bars.
- d) Banqueting.
- e) Conference.

Quit

Please select

Expert System Based Analysis and Diagnosis

From the following areas, please select where sales are decreasing.

- a) Accomodation.
- b) Restaurants.
- c) Bars.
- d) Banqueting.
- e) Conference.

Quit

Please select

**Expert System Based
Analysis and Diagnosis**

In the analysis period, has market share

Increased Stable Decreased Don't Know

Please select

**Expert System Based
Analysis and Diagnosis**

How do your prices compare with your nearest competitor

Lower Similar Higher Don't Know

Please select

Expert System Based
Analysis and Diagnosis

Do your present clientele reflect the market you have targeted

Yes No Don't Know

Please select

Expert System Based
Analysis and Diagnosis

The next set of questions concern the operation
of the premises.

Press any key to continue

**Expert System Based
Analysis and Diagnosis**

Is the condition of your premises

Deteriorating Maintained Enhanced Don't Know

Please select

**Expert System Based
Analysis and Diagnosis**

From the following areas, please select where sales are decreasing.

- | | |
|--------------------|--------------------------|
| a) Standard Rooms. | h) Room Service. |
| b) Deluxe Rooms. | i) In-room Telephones. |
| c) Suites. | j) In-room Television. |
| d) Restaurants. | k) Secretarial Services. |
| e) Bar. | l) Swimming Pool. |
| f) Banqueting. | m) Tennis. |
| g) Conference. | n) Gym. |
| | o) Other Leisure |

Quit

Please select

Expert System Based Analysis and Diagnosis
<p>Has customer satisfaction with your overall product</p> <p>Increased Stable Decreased Don't Know</p> <p>Please select</p>

Expert System Based Analysis and Diagnosis
<p>Is the management concerned with the long term strategic planning process?</p> <p>Yes No Don't Know</p> <p>Please select</p>

Expert System Based Analysis and Diagnosis
<p>What grade or expected grade do you operate under?</p> <p>5 Star 4 Star 3 Star 4 Star 1 Star</p> <p>Please select</p>

Expert System Based Analysis and Diagnosis
<p>The next set of questions is designed to evaluate the human resource function.</p> <p>Press any key to continue</p>

**Expert System Based
Analysis and Diagnosis**

Is your staff turnover figure at a satisfactory level?

Yes No Don't Know

Please select

**Expert System Based
Analysis and Diagnosis**

Is your management turnover figure at a satisfactory level?

Yes No Don't Know

Please select

Expert System Based
Analysis and Diagnosis

Would you say the productivity of the staff is

Unsatisfactory Average Satisfactory Don't Know

Please select

Expert System Based
Analysis and Diagnosis

Is morale within the company

High Average Low Don't Know

Please select

**Expert System Based
Analysis and Diagnosis**

The section evaluates the financial management function

Press any key to continue

**Expert System Based
Analysis and Diagnosis**

Has the return on investment been

Satisfactory Average Unsatisfactory Don't Know

Please select

Expert System Based Analysis and Diagnosis
<p>Has the fixed asset utilization been</p> <p>Satisfactory Average Unsatisfactory Don't Know</p>
Please select

Expert System Based Analysis and Diagnosis
<p>Is your liquidity ratio figure</p> <p>Good Average Bad Don't Know</p>
Please select

Expert System Based Analysis and Diagnosis	
Is the capital structure of the Company	
Good Average Bad Don't Know	
Please select	

Expert System Based Analysis and Diagnosis	
Is the present cashflow situation	
Good Average Bad Don't Know	
Please select	

Expert System Based Analysis and Diagnosis

The last section requires you to answer some questions
regarding the controlfunction.

Press any key to continue

Expert System Based Analysis and Diagnosis

Are the profit margins of the company

Satisfactory Average Unsatisfactory Don't Know

Please select

Expert System Based Analysis and Diagnosis
<p>Are the Inventory Levels</p> <p>Too High Average Too Low Don't Know</p>
Please select

Expert System Based Analysis and Diagnosis
<p>Have the costs in your company</p> <p>Increased Stable Decreased Don't Know</p>
Please select

Expert System Based Analysis and Diagnosis
<p>Is there a concerted use of information among the management team?</p> <p>Yes No Don't Know</p>
Please select

Expert System Based Analysis and Diagnosis
<p>Are computers used for management purposes?</p> <p>Yes No Don't Know</p>
Please select