

File

File name: C:/Users/Administrator/Downloads/Finance_data.csv SPSS.csv
Format: Comma-separated values

Data

Data instances: 40
Features: gender, age, Investment_Avenues, Mutual_Funds, Equity_Market, Debentures, Government_Bonds, Fixed_Deposits, PPF, Gold, Stock_Market, Factor, Objective, Purpose, Duration, Invest_Monitor, Expect, Avenue, What are your savings objectives?, Reason_Equity, Reason_Mutual, Reason_Bonds, Reason_FD, Source (total: 24 features)



























Data table properties

Name: Finance_data.csv SPSS
Size: ~40 rows, 24 columns
Features: 15 categorical, 8 numeric
Targets: categorical outcome with 2 classes
Missing data: none



Data Table															Fri Feb 28 25, 01:37:26	
Data instances: 40 Features: 23 Meta attributes: None Target: Class 'Investment_Avenues'																
	Investment_Avenues	gender	age	Mutual_Funds	Equity_Market	Debentures	Government_Bonds	Fixed_Deposits	PPF	Gold	Stock_Marktet	Factor	Objective	Preference		
1	Yes	Female	34	1	2	5	3	7	6	4	Yes	Returns	Capital Appreciation	W Cr		
2	Yes	Female	23	4	3	2	1	5	6	7	No	Locking Period	Capital Appreciation	W Cr		
3	Yes	Male	30	3	6	4	2	5	1	7	Yes	Returns	Capital Appreciation	W Cr		
4	Yes	Male	22	2	1	3	7	6	4	5	Yes	Returns	Income	W Cr		
5	No	Female	24	2	1	3	6	4	5	7	No	Returns	Income	W Cr		
6	No	Female	24	7	5	4	6	3	1	2	No	Risk	Capital Appreciation	W Cr		
7	Yes	Female	27	3	6	4	2	5	1	7	Yes	Returns	Capital Appreciation	W Cr		
8	Yes	Male	21	2	3	7	4	6	1	5	Yes	Risk	Capital Appreciation	W Cr		
9	Yes	Male	35	2	4	7	5	3	1	6	Yes	Returns	Growth	Safe for Future		
10	Yes	Male	31	1	3	7	4	5	2	6	Yes	Returns	Capital Appreciation	W Cr		
11	Yes	Female	35	2	4	7	5	3	1	6	Yes	Risk	Growth	Safe for Future		
12	Yes	Male	29	2	5	7	6	3	1	4	Yes	Risk	Capital Appreciation	W Cr		
13	No	Female	21	1	2	3	4	5	6	7	No	Returns	Capital Appreciation	Safe for Future		
14	Yes	Female	28	2	3	7	4	5	1	6	Yes	Returns	Capital Appreciation	W Cr		
15	Yes	Female	25	2	3	7	5	4	1	6	Yes	Returns	Capital Appreciation	W Cr		
16	Yes	Male	27	2	3	7	5	4	1	6	Yes	Returns	Capital Appreciation	W Cr		
17	Yes	Female	28	3	2	7	5	4	1	6	Yes	Risk	Growth	W Cr		
18	Yes	Male	27	3	2	7	4	5	1	6	Yes	Returns	Capital Appreciation	W Cr		
19	Yes	Male	29	3	2	7	4	5	1	6	Yes	Risk	Capital Appreciation	W Cr		
20	Yes	Male	26	3	4	6	5	1	2	7	Yes	Risk	Capital Appreciation	W Cr		
21	Yes	Male	29	2	4	7	5	3	1	6	Yes	Returns	Growth	W Cr		
22	Yes	Female	24	2	4	5	6	3	1	7	Yes	Risk	Capital Appreciation	W Cr		
23	Yes	Male	27	3	4	6	5	2	1	7	Yes	Returns	Capital Appreciation	W Cr		
24	Yes	Male	25	2	4	6	5	3	1	7	Yes	Risk	Growth	Safe for Future		
25	Yes	Female	26	2	3	7	5	4	1	6	Yes	Returns	Capital Appreciation	W Cr		
26	Yes	Female	32	3	4	7	5	1	2	6	Yes	Risk	Growth	W Cr		
27	Yes	Male	26	3	4	6	5	1	2	7	Yes	Returns	Capital Appreciation	W Cr		
28	Yes	Male	31	2	3	7	6	4	1	5	Yes	Risk	Growth	Safe for Future		
29	Yes	Male	29	2	3	6	5	1	4	7	Yes	Returns	Capital Appreciation	W Cr		
30	Yes	Female	34	5	4	3	2	7	1	6	Yes	Returns	Income	Re		
31	Yes	Male	27	4	5	1	2	7	3	6	No	Returns	Growth	W Cr		
32	Yes	Female	31	2	4	7	6	3	1	5	Yes	Returns	Capital Appreciation	W Cr		
33	Yes	Male	27	2	4	7	5	1	3	6	Yes	Returns	Capital			

	Name	Distribution	Mean	Mode	Median	Dispersion	Min.	Max.	Missing	
N	age		27.80		27	27	0.13	21	35	0 (0 %)
	Mutual_Funds		2.55		2	2	0.46	1	7	0 (0 %)
	Equity_Market		3.48		4	4	0.32	1	6	0 (0 %)
	Debentures		5.75		7	6.50	0.29	1	7	0 (0 %)
	Government_Bonds		4.65		5	5	0.29	1	7	0 (0 %)
	Fixed_Deposits		3.58		3	3.50	0.50	1	7	0 (0 %)
	PPF		2.02		1	1	0.78	1	6	0 (0 %)
	Gold		5.97		6	6	0.19	2	7	0 (0 %)
C	gender				Male		0.662			0 (0 %)
	Stock_Marktet				Yes		0.377			0 (0 %)
	Factor				Returns		0.753			0 (0 %)
	Objective				Capital Appreciation		0.829			0 (0 %)
	Purpose				Wealth Creation		0.613			0 (0 %)
	Duration				3-5 years		0.955			0 (0 %)
	Invest_Monitor				Monthly		0.768			0 (0 %)
	Expect				20%-30%		0.633			0 (0 %)
	Avenue				Mutual Fund		1.24			0 (0 %)
	What are your savings objectives?				Retirement Plan		0.866			0 (0 %)
	Reason_Equity				Capital Appreciation		0.687			0 (0 %)
	Reason_Mutual				Better Returns		0.866			0 (0 %)
	Reason_Bonds				Assured Returns		0.738			0 (0 %)
	Reason_FD				Risk Free		0.907			0 (0 %)
Source				Financial Consultants		1.25			0 (0 %)	
C	Investment_Avenues				Yes		0.266			0 (0 %)

Sampling type: Random sample with 80 % of data, deterministic
Input: 40 instances
Sample: 32 instances
Remaining: 8 instances

Test and Score

Fri Feb 28 25, 01:38:07

Settings

Sampling type: No sampling, test on testing data
Target class: None, show average over classes

Scores

Model	AUC	CA	F1	Prec	Recall	MCC
Logistic Regression	1.000	1.000	1.000	1.000	1.000	0.000
Random Forest	1.000	1.000	1.000	1.000	1.000	0.000
Tree	1.000	1.000	1.000	1.000	1.000	0.000

Logistic Regression

Fri Feb 28 25, 01:38:12

Name: Logistic Regression

Model parameters

Regularization: Ridge (L2), C=1, class weights: No

Data

Data instances: 32
Features: gender=Female, age, Mutual_Funds, Equity_Market, Debentures, Government_Bonds, Fixed_Deposits, PPF, Gold, Stock_Market=No, Factor=Locking Period, Factor=Risk, Objective=Growth, Objective=Income, Purpose>Returns, Purpose=Savings for Future, Duration=1-3 years, Duration=Less than 1 year, Duration=More than 5 years, Invest_Monitor=Daily, Invest_Monitor=Weekly, Expect=10%-20%, Expect=30%-40%, Avenue=Equity, Avenue=Fixed Deposits, Avenue=Public Provident Fund, What are your savings objectives?=Education, What are your savings objectives?=Health Care, Reason_Equity=Dividend, Reason_Equity=Liquidity, Reason_Mutual=Fund Diversification, Reason_Mutual=Tax Benefits, Reason_Bonds=Safe Investment, Reason_Bonds=Tax Incentives, Reason_FD=Fixed Returns, Reason_FD=High Interest Rates, Source=Internet, Source=Newspapers and Magazines, Source=Television (total: 39 features)
Target: Investment_Avenues

Random Forest

Fri Feb 28 25, 01:38:17

Name: Random Forest

Model parameters

Number of trees: 10
Maximal number of considered features: unlimited
Replicable training: No
Maximal tree depth: unlimited
Stop splitting nodes with maximum instances: 5

Data

Data instances: 32
Features: gender=Female, age, Mutual_Funds, Equity_Market, Debentures, Government_Bonds, Fixed_Deposits, PPF, Gold, Stock_Market=No, Factor=Locking Period, Factor=Risk, Objective=Growth, Objective=Income, Purpose>Returns, Purpose=Savings for Future, Duration=1-3 years, Duration=Less than 1 year, Duration=More than 5 years, Invest_Monitor=Daily, Invest_Monitor=Weekly, Expect=10%-20%, Expect=30%-40%, Avenue=Equity, Avenue=Fixed Deposits, Avenue=Public Provident Fund, What are your savings objectives?=Education, What are your savings objectives?=Health Care, Reason_Equity=Dividend, Reason_Equity=Liquidity, Reason_Mutual=Fund Diversification, Reason_Mutual=Tax Benefits, Reason_Bonds=Safe Investment, Reason_Bonds=Tax Incentives, Reason_FD=Fixed Returns, Reason_FD=High Interest Rates, Source=Internet, Source=Newspapers and Magazines, Source=Television (total: 39 features)
Target: Investment_Avenues

Name: Tree

Model parameters

Pruning: at least 2 instances in leaves, at least 5 instances in internal nodes, maximum depth 100
Splitting: Stop splitting when majority reaches 95% (classification only)
Binary trees: Yes

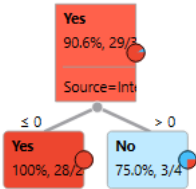
Data

Data instances: 32
Features: gender=Female, age, Mutual_Funds, Equity_Market, Debentures, Government_Bonds, Fixed_Deposits, PPF, Gold, Stock_Market=No, Factor=Locking Period, Factor=Risk, Objective=Growth, Objective=Income, Purpose=Returns, Purpose=Savings for Future, Duration=1-3 years, Duration=Less than 1 year, Duration=More than 5 years, Invest_Monitor=Daily, Invest_Monitor=Weekly, Expect=10%-20%, Expect=30%-40%, Avenue=Equity, Avenue=Fixed Deposits, Avenue=Public Provident Fund, What are your savings objectives?=Education, What are your savings objectives?=Health Care, Reason_Equity=Dividend, Reason_Equity=Liquidity, Reason_Mutual=Fund Diversification, Reason_Mutual=Tax Benefits, Reason_Bonds=Safe Investment, Reason_Bonds=Tax Incentives, Reason_FD=Fixed Returns, Reason_FD=High Interest Rates, Source=Internet, Source=Newspapers and Magazines, Source=Television (total: 39 features)
Target: Investment_Avenues

Tree Viewer

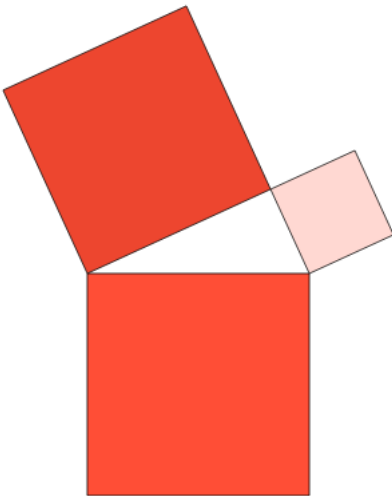
Fri Feb 28 25, 01:38:42

Tree size: 3 nodes, 2 leaves
Edge widths: Fixed
Target class: None



Pythagorean Tree

Fri Feb 28 25, 01:39:02

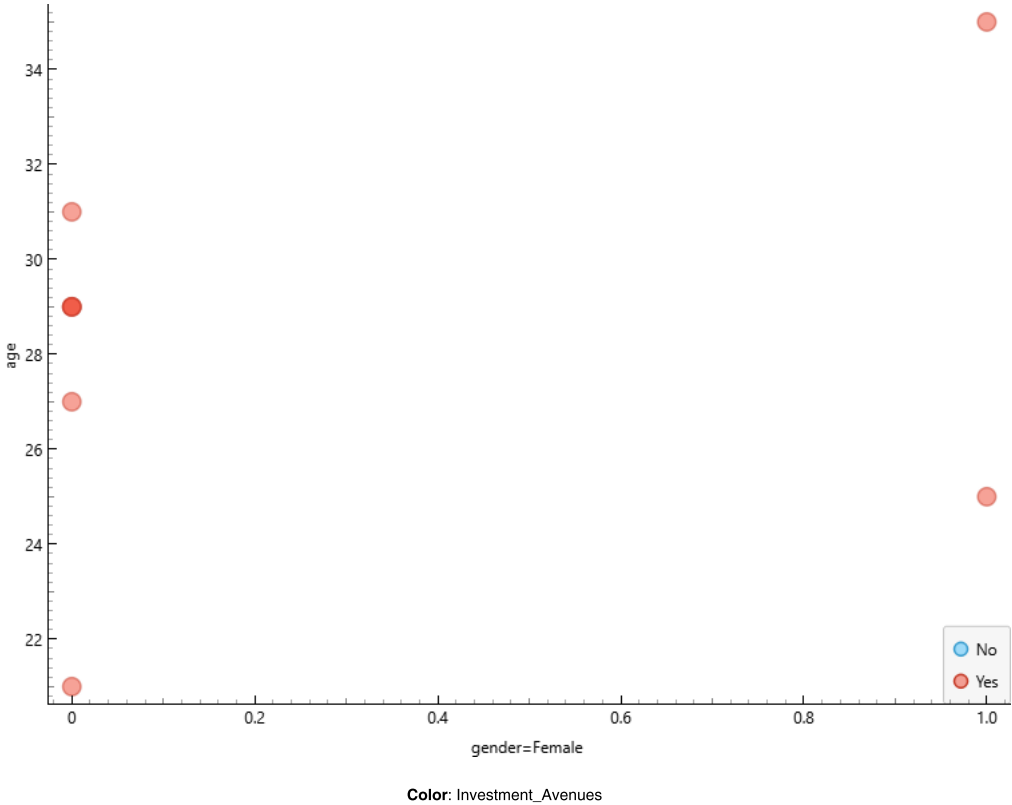


Confusion matrix for Logistic Regression (showing number of instances)

		Predicted		Σ
		No	Yes	
Actual	No	0	0	0
	Yes	0	8	8
Σ		0	8	8

Data instances: 8
Features: 39
Meta attributes: 1
Target: Class 'Investment_Avenues'

	Investment_Avenues	Investment_Avenues(Logistic Regression)	gender=Female	age	Mutual_Funds	Equity_Market	Debentures	Government_Bonds	Fixed_Deposits	PPF	Gold	Stocks
1	Yes	Yes	1	35	2	4	7	5	3	1	6	
2	Yes	Yes	0	27	3	4	6	5	2	1	7	
3	Yes	Yes	0	29	3	2	7	4	5	1	6	
4	Yes	Yes	0	29	2	4	7	5	3	1	6	
5	Yes	Yes	0	21	2	3	7	4	6	1	5	
6	Yes	Yes	1	25	2	3	7	5	4	1	6	
7	Yes	Yes	0	29	2	3	6	5	1	4	7	
8	Yes	Yes	0	31	2	4	7	5	3	1	6	

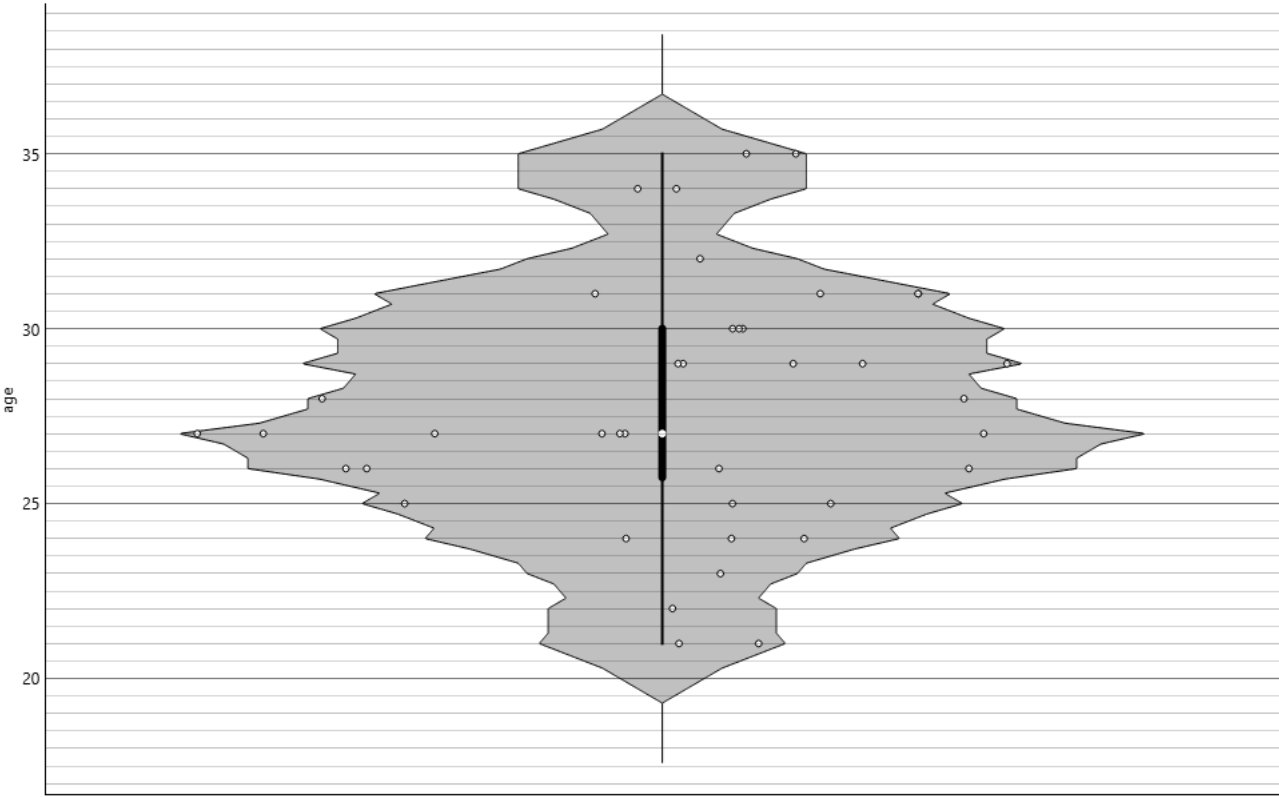


Settings

Impute Missing Values: Replace with random value
Continuize Discrete Variables: Most frequent is base

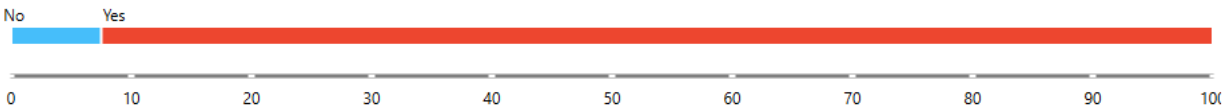
Violin Plot

Fri Feb 28 25, 01:40:17

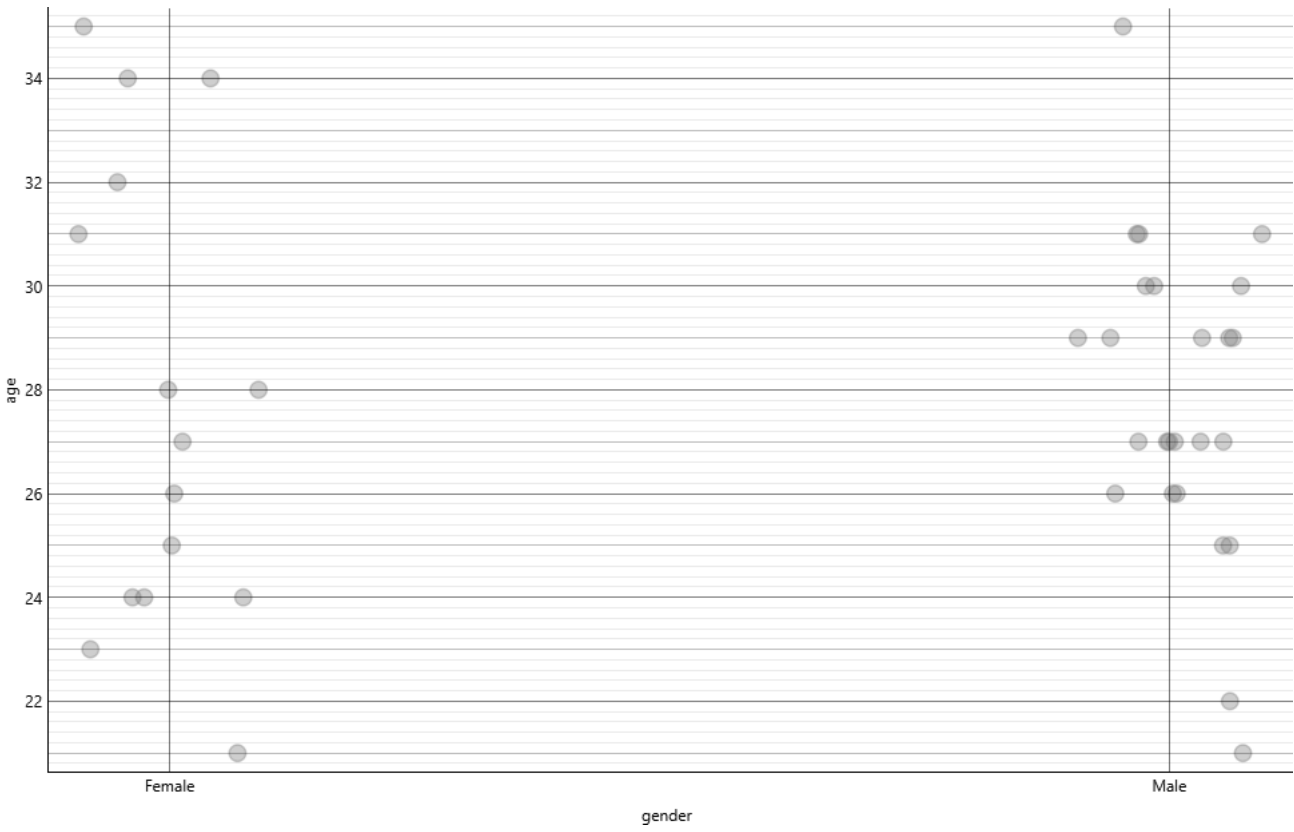


Box Plot

Fri Feb 28 25, 01:40:46



Box plot for attribute 'Investment_Avenues'



Jittering: 3



Pearson correlation

1	+1.000	Duration=More than 5 years	:	Factor=Locking Period
2	+0.806	Duration=Less than 1 year	:	Objective=Income
3	+0.722	Invest_Monitor=Daily	:	Source=Internet
4	-0.720	Debentures	:	Stock_Market=No
5	+0.698	Duration=Less than 1 year	:	Reason_Bonds=Tax Incentives
6	+0.688	Duration=Less than 1 year	:	Source=Internet
7	+0.688	Duration=Less than 1 year	:	Invest_Monitor=Daily
8	+0.640	Expect=10%-20%	:	Reason_Mutual=Tax Benefits
9	+0.640	Expect=10%-20%	:	Objective=Income
10	+0.630	Source=Internet	:	Stock_Market=No
11	-0.588	Debentures	:	Expect=10%-20%
12	+0.562	Duration=More than 5 years	:	Reason_FD=High Interest Rates
13	+0.562	Factor=Locking Period	:	Reason_FD=High Interest Rates
14	+0.562	Reason_Bonds=Tax Incentives	:	Reason_FD=High Interest Rates
15	+0.562	Expect=10%-20%	:	Reason_Bonds=Tax Incentives
16	+0.562	Objective=Income	:	Reason_Bonds=Tax Incentives
17	-0.558	Government_Bonds	:	Reason_Mutual=Tax Benefits
18	+0.545	Reason_Bonds=Safe Investment	:	Stock_Market=No
19	+0.538	Invest_Monitor=Daily	:	Objective=Income
20	+0.538	Objective=Income	:	Source=Internet
21	+0.537	Reason_FD=Fixed Returns	:	age
22	-0.531	Fixed_Deposits	:	Government_Bonds
23	-0.531	Debentures	:	Reason_Mutual=Tax Benefits
24	+0.525	Objective=Growth	:	Purpose=Savings for Future
25	+0.517	PPF	:	Stock_Market=No
26	-0.511	Debentures	:	PPF
27	-0.508	Debentures	:	Reason_Bonds=Safe Investment
28	-0.508	Duration=Less than 1 year	:	Equity_Market
29	-0.504	Debentures	:	Source=Internet
30	+0.496	Expect=10%-20%	:	Fixed_Deposits
31	+0.487	Factor=Risk	:	Objective=Growth
32	+0.480	Reason_Bonds=Tax Incentives	:	Source=Internet
33	+0.480	Invest_Monitor=Daily	:	Reason_Bonds=Tax Incentives
34	-0.479	Source=Internet	:	age
35	+0.473	PPF	:	What are your savings objectives?=Education
36	-0.473	Debentures	:	Reason_FD=High Interest Rates
37	-0.473	Debentures	:	Objective=Income
38	-0.471	Debentures	:	Fixed_Deposits
39	+0.466	Stock_Market=No	:	What are your savings objectives?=Education
40	+0.466	Avenue=Public Provident Fund	:	Expect=30%-40%
41	-0.460	Expect=30%-40%	:	Gold
42	-0.453	Debentures	:	Invest_Monitor=Daily
43	+0.443	Fixed_Deposits	:	Reason_Mutual=Tax Benefits
44	-0.432	Duration=More than 5 years	:	Government_Bonds
45	-0.432	Factor=Locking Period	:	Government_Bonds
46	+0.430	Debentures	:	Government_Bonds
47	-0.430	Stock_Market=No	:	age
48	-0.429	Equity_Market	:	PPF
49	+0.426	PPF	:	Reason_Bonds=Safe Investment
50	+0.424	Duration=More than 5 years	:	Stock_Market=No
51	+0.424	Factor=Locking Period	:	Stock_Market=No
52	-0.416	Debentures	:	What are your savings objectives?=Education
53	+0.414	PPF	:	Source=Internet
54	+0.412	Reason_Mutual=Tax Benefits	:	Source=Television
55	+0.412	Avenue=Public Provident Fund	:	Purpose=Savings for Future
56	+0.410	Reason_Bonds=Safe Investment	:	What are your savings objectives?=Education
57	-0.402	Gold	:	Mutual_Funds
58	+0.401	Duration=More than 5 years	:	PPF
59	+0.401	Factor=Locking Period	:	PPF
60	+0.397	Avenue=Equity	:	Duration=Less than 1 year
61	+0.388	Equity_Market	:	Reason_Mutual=Tax Benefits
62	+0.386	Factor=Risk	:	What are your savings objectives?=Health Care
63	+0.386	PPF	:	Reason_Equity=Dividend
64	+0.385	Avenue=Equity	:	Invest_Monitor=Daily
65	-0.381	Debentures	:	Duration=Less than 1 year
66	+0.378	Mutual_Funds	:	Reason_Equity=Liquidity
67	+0.378	Invest_Monitor=Daily	:	Stock_Market=No
68	-0.376	Equity_Market	:	Objective=Income
69	+0.370	Duration=Less than 1 year	:	Reason_FD=High Interest Rates
70	+0.370	Avenue=Public Provident Fund	:	Reason_Equity=Liquidity
71	+0.370	Purpose=Returns	:	What are your savings objectives?=Education
72	+0.370	Duration=Less than 1 year	:	Expect=10%-20%
73	+0.370	Purpose=Returns	:	Reason_Mutual=Tax Benefits

74	+0.370	Expect=10%-20%	: Purpose=Returns
75	+0.370	Objective=Income	: Purpose=Returns
76	+0.368	Objective=Growth	: Source=Television
77	-0.365	Equity_Market	: Source=Internet
78	-0.363	Debentures	: Duration=More than 5 years
79	-0.363	Debentures	: Factor=Locking Period
80	+0.359	Invest_Monitor=Weekly	: Purpose=Savings for Future
81	+0.357	Duration=Less than 1 year	: PPF
82	-0.355	Equity_Market	: Reason_Bonds=Tax Incentives
83	+0.354	Mutual_Funds	: Reason_Bonds=Safe Investment
84	+0.354	Objective=Growth	: age
85	-0.351	Debentures	: Mutual_Funds
86	+0.349	Mutual_Funds	: Reason_Mutual=Tax Benefits
87	+0.348	Duration=More than 5 years	: Invest_Monitor=Weekly
88	+0.348	Factor=Locking Period	: Invest_Monitor=Weekly
89	-0.345	Reason_Equity=Dividend	: age
90	+0.343	Objective=Growth	: Reason_FD=Fixed Returns
91	-0.341	Factor=Risk	: PPF
92	+0.336	Fixed_Deposits	: Objective=Income
93	+0.336	Mutual_Funds	: Stock_Market=No
94	+0.335	Equity_Market	: Reason_FD=Fixed Returns
95	-0.335	Objective=Growth	: Source=Newspapers and Magazines
96	+0.332	Reason_Equity=Dividend	: Reason_FD=High Interest Rates
97	+0.332	Reason_Equity=Dividend	: What are your savings objectives?=Education
98	+0.332	Equity_Market	: Mutual_Funds
99	+0.332	Stock_Market=No	: gender=Female
100	+0.331	Purpose=Returns	: Reason_Bonds=Safe Investment
+ 641 more			

Scatter Plot

Fri Feb 28 25, 01:41:31

