

# ***PRINCIPAL COMPONENTS ANALYSIS***

# PRINCIPAL COMPONENTS ANALYSIS PERFORMED BY PROGRAM PRINCOMP

## INPUT AND RUN PARAMETERS

N (NUMBER OF OBJECTS - ROWS) = 21  
 M (NUMBER OF VARIABLES - COLS) = 159  
 MCOE (TYPE OF ANALYSIS) = 3  
 NOCOM (COMPONENTS RETAINED) = 3  
 MPPRINT (PRINTOUT OPTION) = 1  
 LABOBJ (LABELS FOR OBJECTS) = 0  
 LABVAR (LABELS FOR VARIABLES) = 1  
 NCOR (TYPE OF CORRESP. ANALYSIS) = 0  
 NOPL (NO. OF DIAGRAMS IN BATCH) = 0  
 MSTD (SAVE MATRIX) = 0  
 IFPR (PRINTOUT OPTION) = 0  
 INPUT FORMAT  
 (\*)

INPUT DATA READ FROM FILE A:\TMATRICE.TXT

OBJECT SCORES ARE WRITTEN IN FILE A:\PCAO

VAR. SCORES ARE WRITTEN IN FILE A:\PCAV

TYPED OUTPUT SAVED IN FILE A:\LISPCA

LABELS FOR VARIABLES READ FROM FILE A:\LAB

## VARIABLES STATISTICS

POOLED VARIANCE = 155.5619

VARIABLE	MEAN	STANDARD DEVIATION	VARIANCE	VARIANCE AS %
1 Cra mon	1.19	1.2498	1.5619	1.004
2 Cor san	1.24	1.4108	1.9905	1.280
3 Tam com	1.67	1.8257	3.3333	2.143
4 Lig vul	.86	1.3148	1.7286	1.111
5 Cle vit	.76	1.2611	1.5905	1.022
6 Cor eme	.57	.9258	.8571	.551
7 Vib lan	.57	.9783	.9571	.615
8 Vib opu	.33	.8563	.7333	.471
9 Euo eur	.19	.6016	.3619	.233
10 Lon cap	.38	1.2032	1.4476	.931
11 Pru spi	.14	.6547	.4286	.275
12 Ros can	.05	.2182	.0476	.031
13 Fra orn	1.86	1.7113	2.9286	1.883
14 Ost car	1.71	2.2168	4.9143	3.159
15 Que pub	1.29	1.9785	3.9143	2.516
16 Que p_p	.29	1.3093	1.7143	1.102
17 Que cer	.43	1.3628	1.8571	1.194
18 Lat nig	.48	.8729	.7619	.490
19 Mel mel	.43	.8106	.6571	.422
20 Lab ana	.33	.8563	.7333	.471
21 Bug pur	.24	.7684	.5905	.380

22	Cot co	.19	.6016	.3619	.233
23	Ara tur	.05	.2182	.0476	.031
24	Gen ger	.05	.2182	.0476	.031
25	Hel foe	.10	.4364	.1905	.122
26	Ace pse	1.43	1.6903	2.8571	1.837
27	Fra exe	1.10	1.8413	3.3905	2.180
28	Car mon	1.00	1.1832	1.4000	.900
29	Eup amy	.81	.9808	.9619	.618
30	Dry fma	.76	1.1792	1.3905	.894
31	Eup dul	.71	1.0556	1.1143	.716
32	Aru dio	.90	1.6403	2.6905	1.730
33	Fag syl	.76	1.2611	1.5905	1.022
34	Apo foe	.48	.8729	.7619	.490
35	Car syl	.52	1.0305	1.0619	.683
36	Ger nod	.57	1.0757	1.1571	.744
37	Lam gal	.62	1.2032	1.4476	.931
38	Mer per	.57	1.0757	1.1571	.744
39	Pri vul	.48	.8729	.7619	.490
40	Car hep	.62	1.1609	1.3476	.866
41	Aru mac	.38	.9735	.9476	.609
42	Mel uni	.38	.8047	.6476	.416
43	Pol mol	.38	.8047	.6476	.416
44	Sal glu	.43	.9258	.8571	.551
45	Ver urt	.38	.8047	.6476	.416
46	Cep dam	.43	.8106	.6571	.422
47	All urs	.62	1.6875	2.8476	1.831
48	Hel vir	.29	.7171	.5143	.331
49	Lat ver	.29	.7171	.5143	.331
50	Pol ver	.38	.9735	.9476	.609
51	Pul off	.19	.6016	.3619	.233
52	San eur	.24	.7684	.5905	.380
53	Sym tub	.19	.6016	.3619	.233
54	Car bul	.24	.7684	.5905	.380
55	Luz niv	.24	.7684	.5905	.380
56	Pre pur	.14	.4781	.2286	.147
57	Epi hel	.10	.4364	.1905	.122
58	Phy spi	.10	.4364	.1905	.122
59	Act spi	.10	.4364	.1905	.122
60	Ade all	.10	.4364	.1905	.122
61	Sen fuc	.10	.4364	.1905	.122
62	Cas sat	.10	.4364	.1905	.122
63	Hed hel	1.57	2.4202	5.8571	3.765
64	Cor ave	2.57	1.8323	3.3571	2.158
65	Ane nem	1.57	1.8323	3.3571	2.158
66	Ace cam	.90	1.1360	1.2905	.830
67	Pru avi	.90	1.2209	1.4905	.958
68	Hep nob	.90	1.3381	1.7905	1.151
69	Vin min	.62	1.0713	1.1476	.738
70	Fes het	.67	1.1106	1.2333	.793
71	Ulm min	.62	1.0235	1.0476	.673
72	Vio riv	.71	1.3093	1.7143	1.102
73	Tha aqu	.52	.9808	.9619	.618
74	Til cor	.29	.7171	.5143	.331
75	Bra syl	.38	.9735	.9476	.609
76	Car dig	.24	.7684	.5905	.380
77	Lon xyl	.19	.6016	.3619	.233
78	Pol acu	.19	.6016	.3619	.233
79	Ace pla	.19	.6016	.3619	.233
80	Poa nem	.19	.6796	.4619	.297
81	Que pet	.10	.4364	.1905	.122
82	Pic exc	.10	.4364	.1905	.122
83	Vac mir	.62	1.9615	3.8476	2.473
84	Hom alp	.24	.8891	.7905	.508

85	Rob pse	.10	.4364	.1905	.122
86	Sam nig	1.14	2.3084	5.3286	3.425
87	Bet pen	.86	1.6818	2.8286	1.818
88	Rub sp	.76	1.9724	3.8905	2.501
89	Sor ari	1.95	1.4655	2.1476	1.381
90	Hel nig	1.24	1.3749	1.8905	1.215
91	Rus acu	.76	.9952	.9905	.637
92	Vin hir	.86	1.2762	1.6286	1.047
93	Ast maj	.57	.8701	.7571	.487
94	Ath ffo	.67	1.1106	1.2333	.793
95	Tan vul	.86	1.4590	2.1286	1.368
96	Bra pin	.62	1.0235	1.0476	.673
97	Car fla	.62	1.1609	1.3476	.866
98	Cru gla	.57	1.0757	1.1571	.744
99	Ile aqu	.52	.9808	.9619	.618
100	Ros sp	.52	1.0305	1.0619	.683
101	Cyc pur	.81	1.6315	2.6619	1.711
102	Dry dil	.38	.8047	.6476	.416
103	Fra ves	.38	.8047	.6476	.416
104	Gal ari	.33	.7303	.5333	.343
105	Sol vir	.43	.9258	.8571	.551
106	Vio alb	.38	.8047	.6476	.416
107	Hie sil	.33	.7303	.5333	.343
108	Hie aus	.33	.8563	.7333	.471
109	Par qua	.33	.8563	.7333	.471
110	Phy ova	.33	.8563	.7333	.471
111	Pte aqu	.29	.7171	.5143	.331
112	Ses var	.29	.7838	.6143	.395
113	Car alb	.38	.9735	.9476	.609
114	Che maj	.24	.7684	.5905	.380
115	Dac glo	.24	.7684	.5905	.380
116	Duc ind	.24	.7684	.5905	.380
117	Ery den	.24	.7684	.5905	.380
118	Gen asc	.19	.6016	.3619	.233
119	Mol coe	.19	.6016	.3619	.233
120	Orn umb	.33	1.3166	1.7333	1.114
121	Pet par	.19	.6016	.3619	.233
122	Pla bif	.19	.6016	.3619	.233
123	Pol cha	.14	.4781	.2286	.147
124	Pol odo	.19	.6016	.3619	.233
125	Sal cap	.24	.7684	.5905	.380
126	Sta rec	.24	.7684	.5905	.380
127	Tax bac	.14	.4781	.2286	.147
128	Val tri	.19	.6796	.4619	.297
129	Aco vul	.24	.7684	.5905	.380
130	Aco sp	.10	.4364	.1905	.122
131	Aju rep	.10	.4364	.1905	.122
132	All pet	.10	.4364	.1905	.122
133	Aqu vul	.10	.4364	.1905	.122
134	Ari rot	.10	.4364	.1905	.122
135	Asp tau	.10	.4364	.1905	.122
136	Bro ere	.10	.4364	.1905	.122
137	Bup sal	.10	.4364	.1905	.122
138	Car hum	.10	.4364	.1905	.122
139	Car pal	.10	.4364	.1905	.122
140	Cen jac	.05	.2182	.0476	.031
141	Cha hir	.10	.4364	.1905	.122
142	Col aut	.10	.4364	.1905	.122
143	Ger rob	.10	.4364	.1905	.122
144	Hor pyr	.10	.4364	.1905	.122
145	Kna dry	.10	.4364	.1905	.122
146	Lis ova	.10	.4364	.1905	.122
147	Luz for	.10	.4364	.1905	.122

148	Mai	bif	.10	.4364	.1905	.122
149	Mel	pra	.14	.6547	.4286	.275
150	Mel	nut	.10	.4364	.1905	.122
151	Myo	syl	.14	.6547	.4286	.275
152	Orc	mas	.10	.4364	.1905	.122
153	Oxa	ace	.10	.4364	.1905	.122
154	Phy	sco	.10	.4364	.1905	.122
155	Phy	bet	.10	.4364	.1905	.122
156	Phy	sch	.10	.4364	.1905	.122
157	Ran	tho	.05	.2182	.0476	.031
158	Sor	auc	.05	.2182	.0476	.031
159	Ver	alb	.10	.4364	.1905	.122

NUMBER OF POSITIVE EIGENVALUES = 90

SUM OF POSITIVE EIGENVALUES = .15900010E+03

## EIGENVALUES

.2678E+02	.1547E+02	.1493E+02	.1126E+02	.9614E+01
.9415E+01	.8719E+01	.8577E+01	.8098E+01	.7205E+01
.6432E+01	.5548E+01	.4954E+01	.4385E+01	.3955E+01
.3529E+01	.3325E+01	.2536E+01	.2294E+01	.1971E+01
.2015E-05	.1040E-05	.8390E-06	.7187E-06	.5442E-06
.4947E-06	.4707E-06	.4284E-06	.3442E-06	.2886E-06
.2866E-06	.2744E-06	.2516E-06	.2420E-06	.2391E-06
.2346E-06	.2300E-06	.2286E-06	.2254E-06	.2202E-06
.2101E-06	.2081E-06	.1898E-06	.1751E-06	.1751E-06
.1657E-06	.1579E-06	.1501E-06	.1470E-06	.1398E-06
.1382E-06	.1107E-06	.1102E-06	.1066E-06	.1007E-06
.9990E-07	.9658E-07	.9369E-07	.7810E-07	.7583E-07
.6762E-07	.6564E-07	.6321E-07	.6039E-07	.5398E-07
.5236E-07	.5173E-07	.5031E-07	.4739E-07	.4103E-07
.3243E-07	.3163E-07	.3114E-07	.3025E-07	.2967E-07
.2786E-07	.2611E-07	.2337E-07	.1927E-07	.1755E-07
.1567E-07	.1563E-07	.1469E-07	.1375E-07	.1292E-07
.1016E-07	.7932E-08	.5948E-08	.2157E-08	.1681E-08

## EIGENVALUES AS PERCENT

[illegible]

CUMULATIVE PERCENTAGE OF EIGENVALUES

16.84	26.57	35.96	43.05	49.09
55.01	60.50	65.89	70.99	75.52
79.56	83.05	86.17	88.92	91.41

SQUARE ROOTS OF EIGENVALUES

HORIZONTAL AXIS IS COMPONENT 1  
VERTICAL AXIS IS COMPONENT 2

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MINIMUM VALUE=      -10.65345
MAXIMUM VALUE=       6.87887
SCALING UNIT  =       .23069
ONE TICK=         1.000

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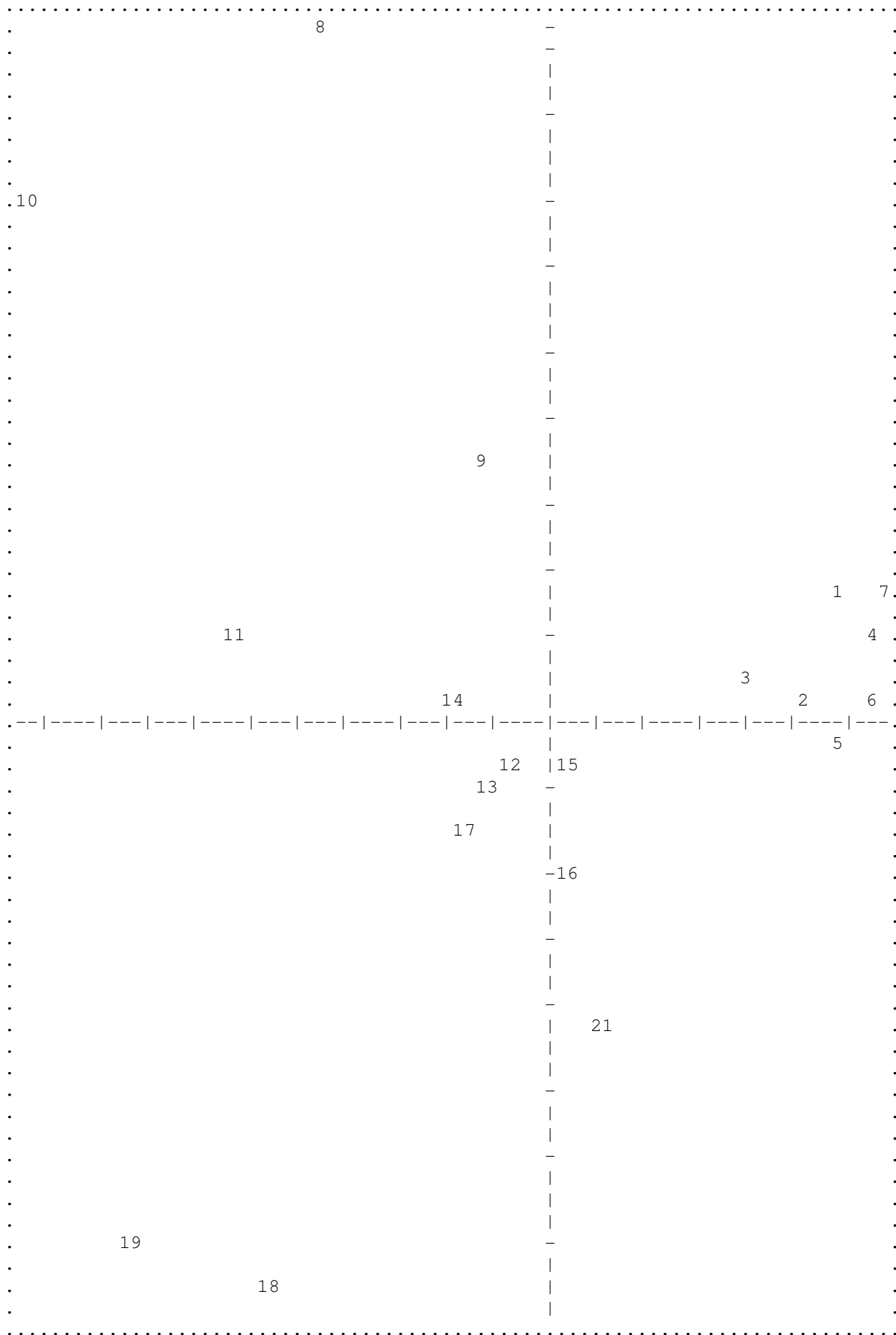
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MINIMUM VALUE=      -7.57861
MAXIMUM VALUE=      10.05503
SCALING UNIT  =       .29389
ONE TICK=       1.000

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ID.NUMBER	COORDINATES
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20                    .64507                    -2.08513



HORIZONTAL AXIS IS COMPONENT 1  
VERTICAL AXIS IS COMPONENT 2

HORIZONTAL AXIS

MINIMUM VALUE= -.75772  
MAXIMUM VALUE= .76645  
SCALING UNIT = .02005  
ONE TICK= .100

VERTICAL AXIS

MINIMUM VALUE= -.62316  
MAXIMUM VALUE= .73122  
SCALING UNIT = .02257  
ONE TICK= .100

OVERLAPPING POINTS (NOT PLOTTED)

ID.NUMBER	COORDINATES	
22	.35303	.07350
57	.25971	.09437
60	-.28071	.06531
62	-.28071	.06531
75	-.19548	.51138
81	.25513	-.02764
82	.04402	-.24148
84	-.39180	-.40579
85	-.37734	-.41752
88	.01142	-.24679
90	-.07037	.19945
105	-.67438	-.04012
107	.49296	.05718
109	.52441	.11402
111	-.46337	.61548
115	.02033	-.12456
116	.41974	.11663
124	-.45694	-.62316
128	-.17730	.06881
129	-.42944	-.61323
131	.25513	-.02764
133	.01373	-.12581
134	-.37734	-.41752
135	-.04221	-.03214
136	-.47170	.40888
138	.28994	.01836
139	.25513	-.02764
140	.01521	-.03061
141	.25513	-.02764
142	-.47170	.40888
143	-.05977	.19614
144	-.47170	.40888
146	.30457	.09782
147	-.47170	.40888
148	-.20277	.58570
149	-.37734	-.41752
150	.04402	-.24148
151	-.20277	.58570
152	.17818	.02318



153	-.25251	-.44145
154	-.25251	-.44145
155	-.28071	.06531
156	.28994	.01836
157	-.20277	.58571
158	-.25251	-.44145
159	-.37734	-.41752

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.          65          |          .
.          27          |          104          .
.          26          37          |          .
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.          79          68          |          .
.          8          |          .
.          |          .
.          3447          130          -          96          2          .
.          54          |          71          64          927          .
.          102          94          |          67          14          .
.          122          18          |          .
.          42          |          .
.          30          -          29          13          .
.          |          .
.          56          |          .
.          32          51          59          -          9          3          .
.          |          .
.          43          |          73          1          .
.          110          31          |          98          6          .
.          40          49          101          48          -          21          74          99          415          5          .
.          45          66          58          63          70          |          12137          127          72          20          19          .
.          |          89          |          76          17          35          77          .
.          123          100          |          11          132          97          .
.          |          16          .
.          -|-----78---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
.          113121          91          25          93          .
.          38          41          125          46          .
.          |          .
.          69          95          -117          126          .
.          |          87          10          .
.          52          |          .
.          |          86          .
.          33          |          112          .
.          |          120          .
.          |          .
.          |          24          .
.          103          |          .
.          |          .
.          118          106          |          .
.          |          .
.          61          -          .
.          50          145          |          .
.          108          .
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.          119          |          .
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