data iris;

input SepalLength SepalWidth PetalLength PetalWidth Species$;

datalines;

5.1 3.5 1.4 0.2 setosa

4.9 3 1.4 0.2 setosa

4.7 3.2 1.3 0.2 setosa

4.6 3.1 1.5 0.2 setosa

5 3.6 1.4 0.2 setosa

5.4 3.9 1.7 0.4 setosa

4.6 3.4 1.4 0.3 setosa

5 3.4 1.5 0.2 setosa

4.4 2.9 1.4 0.2 setosa

4.9 3.1 1.5 0.1 setosa

5.4 3.7 1.5 0.2 setosa

4.8 3.4 1.6 0.2 setosa

4.8 3 1.4 0.1 setosa

4.3 3 1.1 0.1 setosa

5.8 4 1.2 0.2 setosa

5.7 4.4 1.5 0.4 setosa

5.4 3.9 1.3 0.4 setosa

5.1 3.5 1.4 0.3 setosa

5.7 3.8 1.7 0.3 setosa

5.1 3.8 1.5 0.3 setosa

5.4 3.4 1.7 0.2 setosa

5.1 3.7 1.5 0.4 setosa

4.6 3.6 1 0.2 setosa

5.1 3.3 1.7 0.5 setosa

4.8 3.4 1.9 0.2 setosa

5 3 1.6 0.2 setosa

5 3.4 1.6 0.4 setosa

5.2 3.5 1.5 0.2 setosa

5.2 3.4 1.4 0.2 setosa

4.7 3.2 1.6 0.2 setosa

4.8 3.1 1.6 0.2 setosa

5.4 3.4 1.5 0.4 setosa

5.2 4.1 1.5 0.1 setosa

5.5 4.2 1.4 0.2 setosa

4.9 3.1 1.5 0.2 setosa

5 3.2 1.2 0.2 setosa

5.5 3.5 1.3 0.2 setosa

4.9 3.6 1.4 0.1 setosa

4.4 3 1.3 0.2 setosa

5.1 3.4 1.5 0.2 setosa

5 3.5 1.3 0.3 setosa

4.5 2.3 1.3 0.3 setosa

4.4 3.2 1.3 0.2 setosa

5 3.5 1.6 0.6 setosa

5.1 3.8 1.9 0.4 setosa

4.8 3 1.4 0.3 setosa

5.1 3.8 1.6 0.2 setosa

4.6 3.2 1.4 0.2 setosa

5.3 3.7 1.5 0.2 setosa

5 3.3 1.4 0.2 setosa

7 3.2 4.7 1.4 versicolor

6.4 3.2 4.5 1.5 versicolor

6.9 3.1 4.9 1.5 versicolor

5.5 2.3 4 1.3 versicolor

6.5 2.8 4.6 1.5 versicolor

5.7 2.8 4.5 1.3 versicolor

6.3 3.3 4.7 1.6 versicolor

4.9 2.4 3.3 1 versicolor

6.6 2.9 4.6 1.3 versicolor

5.2 2.7 3.9 1.4 versicolor

5 2 3.5 1 versicolor

5.9 3 4.2 1.5 versicolor

6 2.2 4 1 versicolor

6.1 2.9 4.7 1.4 versicolor

5.6 2.9 3.6 1.3 versicolor

6.7 3.1 4.4 1.4 versicolor

5.6 3 4.5 1.5 versicolor

5.8 2.7 4.1 1 versicolor

6.2 2.2 4.5 1.5 versicolor

5.6 2.5 3.9 1.1 versicolor

5.9 3.2 4.8 1.8 versicolor

6.1 2.8 4 1.3 versicolor

6.3 2.5 4.9 1.5 versicolor

6.1 2.8 4.7 1.2 versicolor

6.4 2.9 4.3 1.3 versicolor

6.6 3 4.4 1.4 versicolor

6.8 2.8 4.8 1.4 versicolor

6.7 3 5 1.7 versicolor

6 2.9 4.5 1.5 versicolor

5.7 2.6 3.5 1 versicolor

5.5 2.4 3.8 1.1 versicolor

5.5 2.4 3.7 1 versicolor

5.8 2.7 3.9 1.2 versicolor

6 2.7 5.1 1.6 versicolor

5.4 3 4.5 1.5 versicolor

6 3.4 4.5 1.6 versicolor

6.7 3.1 4.7 1.5 versicolor

6.3 2.3 4.4 1.3 versicolor

5.6 3 4.1 1.3 versicolor

5.5 2.5 4 1.3 versicolor

5.5 2.6 4.4 1.2 versicolor

6.1 3 4.6 1.4 versicolor

5.8 2.6 4 1.2 versicolor

5 2.3 3.3 1 versicolor

5.6 2.7 4.2 1.3 versicolor

5.7 3 4.2 1.2 versicolor

5.7 2.9 4.2 1.3 versicolor

6.2 2.9 4.3 1.3 versicolor

5.1 2.5 3 1.1 versicolor

5.7 2.8 4.1 1.3 versicolor

6.3 3.3 6 2.5 virginica

5.8 2.7 5.1 1.9 virginica

7.1 3 5.9 2.1 virginica

6.3 2.9 5.6 1.8 virginica

6.5 3 5.8 2.2 virginica

7.6 3 6.6 2.1 virginica

4.9 2.5 4.5 1.7 virginica

7.3 2.9 6.3 1.8 virginica

6.7 2.5 5.8 1.8 virginica

7.2 3.6 6.1 2.5 virginica

6.5 3.2 5.1 2 virginica

6.4 2.7 5.3 1.9 virginica

6.8 3 5.5 2.1 virginica

5.7 2.5 5 2 virginica

5.8 2.8 5.1 2.4 virginica

6.4 3.2 5.3 2.3 virginica

6.5 3 5.5 1.8 virginica

7.7 3.8 6.7 2.2 virginica

7.7 2.6 6.9 2.3 virginica

6 2.2 5 1.5 virginica

6.9 3.2 5.7 2.3 virginica

5.6 2.8 4.9 2 virginica

7.7 2.8 6.7 2 virginica

6.3 2.7 4.9 1.8 virginica

6.7 3.3 5.7 2.1 virginica

7.2 3.2 6 1.8 virginica

6.2 2.8 4.8 1.8 virginica

6.1 3 4.9 1.8 virginica

6.4 2.8 5.6 2.1 virginica

7.2 3 5.8 1.6 virginica

7.4 2.8 6.1 1.9 virginica

7.9 3.8 6.4 2 virginica

6.4 2.8 5.6 2.2 virginica

6.3 2.8 5.1 1.5 virginica

6.1 2.6 5.6 1.4 virginica

7.7 3 6.1 2.3 virginica

6.3 3.4 5.6 2.4 virginica

6.4 3.1 5.5 1.8 virginica

6 3 4.8 1.8 virginica

6.9 3.1 5.4 2.1 virginica

6.7 3.1 5.6 2.4 virginica

6.9 3.1 5.1 2.3 virginica

5.8 2.7 5.1 1.9 virginica

6.8 3.2 5.9 2.3 virginica

6.7 3.3 5.7 2.5 virginica

6.7 3 5.2 2.3 virginica

6.3 2.5 5 1.9 virginica

6.5 3 5.2 2 virginica

6.2 3.4 5.4 2.3 virginica

5.9 3 5.1 1.8 virginica

;

run;

data usarrests;

input Murder Assault UrbanPop Rape;

datalines;

13.2 236 58 21.2

10 263 48 44.5

8.1 294 80 31

8.8 190 50 19.5

9 276 91 40.6

7.9 204 78 38.7

3.3 110 77 11.1

5.9 238 72 15.8

15.4 335 80 31.9

17.4 211 60 25.8

5.3 46 83 20.2

2.6 120 54 14.2

10.4 249 83 24

7.2 113 65 21

2.2 56 57 11.3

6 115 66 18

9.7 109 52 16.3

15.4 249 66 22.2

2.1 83 51 7.8

11.3 300 67 27.8

4.4 149 85 16.3

12.1 255 74 35.1

2.7 72 66 14.9

16.1 259 44 17.1

9 178 70 28.2

6 109 53 16.4

4.3 102 62 16.5

12.2 252 81 46

2.1 57 56 9.5

7.4 159 89 18.8

11.4 285 70 32.1

11.1 254 86 26.1

13 337 45 16.1

0.8 45 44 7.3

7.3 120 75 21.4

6.6 151 68 20

4.9 159 67 29.3

6.3 106 72 14.9

3.4 174 87 8.3

14.4 279 48 22.5

3.8 86 45 12.8

13.2 188 59 26.9

12.7 201 80 25.5

3.2 120 80 22.9

2.2 48 32 11.2

8.5 156 63 20.7

4 145 73 26.2

5.7 81 39 9.3

2.6 53 66 10.8

6.8 161 60 15.6

;

run;

data gasoline;

input octane NIR\_900\_nm NIR\_902\_nm NIR\_904\_nm NIR\_906\_nm NIR\_908\_nm NIR\_910\_nm NIR\_968\_nm NIR\_970\_nm NIR\_972\_nm NIR\_974\_nm;

datalines;

85.3 -0.050193 -0.045903 -0.042187 -0.037177 -0.033348 -0.031207 -0.07101 -0.070609 -0.070464 -0.070433

85.25 -0.044227 -0.039602 -0.035673 -0.030911 -0.026675 -0.023871 -0.065564 -0.065335 -0.064051 -0.063666

88.45 -0.046867 -0.04126 -0.036979 -0.031458 -0.02652 -0.023346 -0.069738 -0.070031 -0.069496 -0.069789

83.4 -0.046705 -0.04224 -0.038561 -0.034513 -0.030206 -0.02768 -0.071043 -0.071324 -0.070894 -0.071157

87.9 -0.050859 -0.045145 -0.041025 -0.036357 -0.032747 -0.031498 -0.071892 -0.071883 -0.071469 -0.071713

85.5 -0.048094 -0.042739 -0.038812 -0.034017 -0.030143 -0.02769 -0.069277 -0.069443 -0.068892 -0.069112

88.9 -0.049906 -0.044558 -0.040543 -0.035716 -0.031844 -0.029581 -0.07112 -0.071131 -0.07075 -0.070823

88.3 -0.049293 -0.043788 -0.039429 -0.034193 -0.029588 -0.026455 -0.071732 -0.071797 -0.071502 -0.071557

88.7 -0.049885 -0.044279 -0.040158 -0.034954 -0.031114 -0.02839 -0.070922 -0.070895 -0.070606 -0.070568

88.45 -0.051054 -0.045678 -0.041673 -0.036761 -0.033078 -0.030466 -0.071805 -0.071772 -0.071393 -0.071226

88.75 -0.052705 -0.047674 -0.04396 -0.039335 -0.035622 -0.033849 -0.072714 -0.072696 -0.072126 -0.072232

88.25 -0.050383 -0.044934 -0.041391 -0.036162 -0.032389 -0.030479 -0.071965 -0.071765 -0.071401 -0.071446

87.3 -0.047866 -0.043572 -0.039234 -0.033831 -0.029675 -0.026899 -0.071905 -0.071934 -0.07158 -0.071721

88 -0.046594 -0.041111 -0.036881 -0.031122 -0.026667 -0.023717 -0.069902 -0.069715 -0.069413 -0.069611

88.7 -0.04247 -0.036621 -0.03243 -0.026807 -0.021276 -0.018356 -0.067115 -0.067212 -0.066945 -0.067023

85.5 -0.048503 -0.04385 -0.040052 -0.035608 -0.031709 -0.029417 -0.070147 -0.070441 -0.069954 -0.070081

88.65 -0.052011 -0.046438 -0.042741 -0.037767 -0.033675 -0.031435 -0.073527 -0.073522 -0.073036 -0.073113

88.75 -0.055093 -0.049515 -0.045637 -0.040658 -0.036019 -0.033858 -0.076035 -0.076164 -0.07552 -0.075672

85.4 -0.055002 -0.049353 -0.045749 -0.040881 -0.036641 -0.034485 -0.076466 -0.076582 -0.076049 -0.076085

88.6 -0.053971 -0.048498 -0.044546 -0.039737 -0.035025 -0.032028 -0.076119 -0.076283 -0.07557 -0.07601

87 -0.056393 -0.051917 -0.048119 -0.042835 -0.03889 -0.037075 -0.07879 -0.079116 -0.078656 -0.078781

87.15 -0.041806 -0.037138 -0.03333 -0.028394 -0.024088 -0.02222 -0.065484 -0.065805 -0.065176 -0.065456

87.05 -0.056295 -0.050792 -0.047015 -0.041668 -0.037211 -0.035112 -0.078484 -0.078539 -0.077872 -0.078135

87.25 -0.056614 -0.050934 -0.047065 -0.042162 -0.037512 -0.035385 -0.078841 -0.078968 -0.078313 -0.078399

86.85 -0.056634 -0.050985 -0.047449 -0.042544 -0.037751 -0.035638 -0.078887 -0.078883 -0.078386 -0.078529

88.65 -0.053835 -0.048211 -0.043901 -0.039466 -0.034951 -0.032682 -0.075038 -0.074955 -0.074349 -0.074538

86.6 -0.054568 -0.049352 -0.045221 -0.040954 -0.036456 -0.034173 -0.07615 -0.076238 -0.075791 -0.075947

86 -0.056343 -0.05079 -0.046753 -0.042718 -0.038384 -0.036067 -0.077316 -0.077339 -0.07693 -0.076962

86.1 -0.055746 -0.050452 -0.046133 -0.042041 -0.037684 -0.03534 -0.077215 -0.077436 -0.076884 -0.076769

86.5 -0.056285 -0.051229 -0.047233 -0.043306 -0.038566 -0.036586 -0.077674 -0.077509 -0.077078 -0.07738

86.3 -0.055856 -0.050983 -0.047003 -0.042624 -0.038003 -0.035975 -0.077325 -0.077284 -0.076902 -0.076953

84.4 -0.054979 -0.049543 -0.045299 -0.041173 -0.036667 -0.034132 -0.076131 -0.076307 -0.075903 -0.075994

84.7 -0.056744 -0.05164 -0.047625 -0.043418 -0.03872 -0.036322 -0.078023 -0.078148 -0.077752 -0.07796

84.6 -0.055116 -0.049883 -0.045198 -0.041241 -0.036557 -0.034154 -0.076209 -0.076329 -0.075926 -0.076025

84.5 -0.055431 -0.04961 -0.046254 -0.041308 -0.037308 -0.034262 -0.076279 -0.076964 -0.076196 -0.076664

88.1 -0.054786 -0.049772 -0.045728 -0.041781 -0.037103 -0.034873 -0.076692 -0.076898 -0.076187 -0.076589

85.25 -0.052696 -0.047364 -0.043219 -0.039882 -0.035381 -0.032813 -0.073568 -0.073806 -0.073372 -0.073167

88.4 -0.051488 -0.04571 -0.041979 -0.037985 -0.034024 -0.030727 -0.072871 -0.072811 -0.072732 -0.07259

88.2 -0.050822 -0.04534 -0.040816 -0.036766 -0.031458 -0.029078 -0.073201 -0.073473 -0.073151 -0.072775

88.4 -0.053711 -0.04782 -0.043375 -0.03973 -0.035277 -0.03209 -0.074743 -0.074758 -0.074234 -0.074037

88.55 -0.052652 -0.046447 -0.043614 -0.040247 -0.035748 -0.033943 -0.072879 -0.073028 -0.072475 -0.072439

88.35 -0.050152 -0.044052 -0.04055 -0.036536 -0.032156 -0.03009 -0.071249 -0.071321 -0.070716 -0.070652

88.2 -0.045382 -0.040226 -0.036527 -0.032673 -0.028697 -0.026225 -0.067988 -0.068332 -0.067801 -0.067755

85.3 -0.050142 -0.044155 -0.040605 -0.036775 -0.032357 -0.029566 -0.071244 -0.071749 -0.071235 -0.071101

88.5 -0.055431 -0.049375 -0.04619 -0.042031 -0.037362 -0.035388 -0.075983 -0.076012 -0.075225 -0.075659

88.25 -0.062839 -0.056232 -0.053075 -0.048133 -0.044493 -0.041588 -0.082227 -0.081972 -0.082198 -0.08173

88 -0.060146 -0.054662 -0.051013 -0.046707 -0.042162 -0.040352 -0.080343 -0.079998 -0.080008 -0.080109

88.85 -0.059905 -0.053893 -0.049825 -0.045788 -0.039896 -0.037613 -0.080214 -0.079901 -0.079892 -0.079907

88.45 -0.060446 -0.054912 -0.051417 -0.046888 -0.042582 -0.040267 -0.080629 -0.080316 -0.08015 -0.080252

88.7 -0.060961 -0.056118 -0.052393 -0.048156 -0.043868 -0.041965 -0.081119 -0.080995 -0.080848 -0.080876

88.1 -0.052634 -0.046971 -0.043205 -0.039538 -0.034724 -0.032414 -0.074773 -0.07458 -0.074087 -0.074339

87.6 -0.0527 -0.047331 -0.043577 -0.040344 -0.035613 -0.033652 -0.074 -0.073934 -0.073398 -0.073687

88.35 -0.053394 -0.04799 -0.044082 -0.04069 -0.036469 -0.033663 -0.074437 -0.074551 -0.07382 -0.073677

85.1 -0.054134 -0.048487 -0.045171 -0.041012 -0.035553 -0.034104 -0.07693 -0.076889 -0.07598 -0.076474

85.1 -0.049623 -0.044263 -0.041154 -0.037335 -0.032926 -0.030602 -0.071448 -0.071744 -0.071078 -0.071213

84.7 -0.046884 -0.04236 -0.038683 -0.035291 -0.030175 -0.027898 -0.070004 -0.070441 -0.07027 -0.069922

87.2 -0.055555 -0.049867 -0.045942 -0.042266 -0.037195 -0.034837 -0.077774 -0.07793 -0.076906 -0.077384

86.6 -0.053693 -0.04802 -0.044677 -0.041021 -0.036254 -0.034531 -0.075349 -0.075294 -0.074698 -0.075101

89.6 -0.056311 -0.051231 -0.047483 -0.044605 -0.039404 -0.037526 -0.078171 -0.078043 -0.07705 -0.077396

87.1 -0.058805 -0.053311 -0.049543 -0.045053 -0.040598 -0.038965 -0.07976 -0.079823 -0.079516 -0.079988

;

run;

data pentaTrain;

input obsnam $ S1 L1 P1 S2 L2 P2

S3 L3 P3 S4 L4 P4

S5 L5 P5 log\_RAI @@;

n = \_n\_;

datalines;

VESSK -2.6931 -2.5271 -1.2871 3.0777 0.3891 -0.0701

1.9607 -1.6324 0.5746 1.9607 -1.6324 0.5746

2.8369 1.4092 -3.1398 0.00

VESAK -2.6931 -2.5271 -1.2871 3.0777 0.3891 -0.0701

1.9607 -1.6324 0.5746 0.0744 -1.7333 0.0902

2.8369 1.4092 -3.1398 0.28

VEASK -2.6931 -2.5271 -1.2871 3.0777 0.3891 -0.0701

0.0744 -1.7333 0.0902 1.9607 -1.6324 0.5746

2.8369 1.4092 -3.1398 0.20

VEAAK -2.6931 -2.5271 -1.2871 3.0777 0.3891 -0.0701

0.0744 -1.7333 0.0902 0.0744 -1.7333 0.0902

2.8369 1.4092 -3.1398 0.51

VKAAK -2.6931 -2.5271 -1.2871 2.8369 1.4092 -3.1398

0.0744 -1.7333 0.0902 0.0744 -1.7333 0.0902

2.8369 1.4092 -3.1398 0.11

VEWAK -2.6931 -2.5271 -1.2871 3.0777 0.3891 -0.0701

-4.7548 3.6521 0.8524 0.0744 -1.7333 0.0902

2.8369 1.4092 -3.1398 2.73

VEAAP -2.6931 -2.5271 -1.2871 3.0777 0.3891 -0.0701

0.0744 -1.7333 0.0902 0.0744 -1.7333 0.0902

-1.2201 0.8829 2.2253 0.18

VEHAK -2.6931 -2.5271 -1.2871 3.0777 0.3891 -0.0701

2.4064 1.7438 1.1057 0.0744 -1.7333 0.0902

2.8369 1.4092 -3.1398 1.53

VAAAK -2.6931 -2.5271 -1.2871 0.0744 -1.7333 0.0902

0.0744 -1.7333 0.0902 0.0744 -1.7333 0.0902

2.8369 1.4092 -3.1398 -0.10

GEAAK 2.2261 -5.3648 0.3049 3.0777 0.3891 -0.0701

0.0744 -1.7333 0.0902 0.0744 -1.7333 0.0902

2.8369 1.4092 -3.1398 -0.52

LEAAK -4.1921 -1.0285 -0.9801 3.0777 0.3891 -0.0701

0.0744 -1.7333 0.0902 0.0744 -1.7333 0.0902

2.8369 1.4092 -3.1398 0.40

FEAAK -4.9217 1.2977 0.4473 3.0777 0.3891 -0.0701

0.0744 -1.7333 0.0902 0.0744 -1.7333 0.0902

2.8369 1.4092 -3.1398 0.30

VEGGK -2.6931 -2.5271 -1.2871 3.0777 0.3891 -0.0701

2.2261 -5.3648 0.3049 2.2261 -5.3648 0.3049

2.8369 1.4092 -3.1398 -1.00

VEFAK -2.6931 -2.5271 -1.2871 3.0777 0.3891 -0.0701

-4.9217 1.2977 0.4473 0.0744 -1.7333 0.0902

2.8369 1.4092 -3.1398 1.57

VELAK -2.6931 -2.5271 -1.2871 3.0777 0.3891 -0.0701

-4.1921 -1.0285 -0.9801 0.0744 -1.7333 0.0902

2.8369 1.4092 -3.1398 0.59

;

run;