Sep 03, 07 4:51 **x6_2.sas** Page 1/1

```
/* x6_2.sas */
/* Purpose:  */

title1 'Example 6.2.';

data a;
  input si al;
  cards;
19.4  5.9
21.5  4.0
19.2  4.0
18.4  5.4
20.6  6.2
19.8  5.7
18.7  6.0
;

proc print data=a;
title2 'List of data.';

proc princomp cov data=a;
  var si al;
title2 'Eigenvalues and -vectors for S matrix (Use relationship between S & S**-

run;
```

```
                              Example 6.2.                                 1
                             List of data.

                           Obs     si      al

                            1     19.4    5.9
                            2     21.5    4.0
                            3     19.2    4.0
                            4     18.4    5.4
                            5     20.6    6.2
                            6     19.8    5.7
                            7     18.7    6.0

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                              Example 6.2.                                 2
  Eigenvalues and -vectors for S matrix (Use relationship between S & S**-1).

                         The PRINCOMP Procedure

                        Observations           7
                        Variables              2


                           Simple Statistics

                                    si                 al

                  Mean       19.65714286       5.314285714
                  StD         1.08605884       0.931716286



                           Covariance Matrix

                                   si                 al

                   si       1.179523810      -0.307619048
                   al      -0.307619048       0.868095238



                     Total Variance    2.0476190476


                  Eigenvalues of the Covariance Matrix

                Eigenvalue    Difference    Proportion    Cumulative

           1    1.36859412    0.68956919        0.6684        0.6684
           2    0.67902493                      0.3316        1.0000


                              Eigenvectors

                                Prin1         Prin2

                       si      0.851947      0.523628
                       al      -.523628      0.851947
```