```
/* x8_2.sas */
/* Purpose:  */

title1 'Example 8.2.';

data a (type=corr);
  length _type_ $ 8 _name_ $ 8;
  input _type_ _name_ x1 x2 x3 x4;
cards;
CORR X1  1.00  0.32  0.41 -0.31
CORR X2  0.32  1.00  0.68 -0.38
CORR X3  0.41  0.68  1.00 -0.36
CORR X4 -0.31 -0.38 -0.36  1.00
;

proc print;
title2 'List of data. Note: special SAS-dataset (type=corr)';

proc princomp data=a;
title2 'Compute eigenvalues and eigenvectors.';

run;
```

```
                                 Example 8.2.                                  1
              List of data. Note: special SAS-dataset (type=corr)

          Obs    _type_    _name_      x1       x2       x3       x4

           1      CORR       X1       1.00     0.32     0.41    -0.31
           2      CORR       X2       0.32     1.00     0.68    -0.38
           3      CORR       X3       0.41     0.68     1.00    -0.36
           4      CORR       X4      -0.31    -0.38    -0.36     1.00

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                                 Example 8.2.                                  2
                     Compute eigenvalues and eigenvectors.

                             The PRINCOMP Procedure

                            Observations       10000
                            Variables              4


                      Eigenvalues of the Correlation Matrix

                  Eigenvalue    Difference    Proportion    Cumulative

            1     2.25317146    1.51323556        0.5633        0.5633
            2     0.73993590    0.04310290        0.1850        0.7483
            3     0.69683300    0.38677338        0.1742        0.9225
            4     0.31005963                      0.0775        1.0000


                                  Eigenvectors

                      Prin1         Prin2         Prin3         Prin4

           x1      0.433291      -.657623      0.599985      0.140745
           x2      0.549743      0.488385      -.020605      0.677376
           x3      0.565401      0.368384      0.164232      -.719474
           x4      -.436307      0.439666      0.782701      0.060908
```