Multivariate Analysis for the Behavioral Sciences, Second Edition (Chapman and Hall/CRC, 2019)

Exercises of Chapter 15: Exploratory Factor Analysis

Kimmo Vehkalahti and Brian S. Everitt

14 December 2018

Exercises

Exercise 15.4

Use the matrix R below, modifying the related R code given in the **Examples of Chapter 15**.

```
R <- c(
        1.00,-0.04, 0.61, 0.45, 0.03,-0.29,-0.30, 0.45, 0.30,
       -0.04, 1.00,-0.07,-0.12, 0.49, 0.43, 0.30,-0.31,-0.17,
        0.61,-0.07, 1.00, 0.59, 0.03,-0.13,-0.24, 0.59, 0.32,
        0.45,-0.12, 0.59, 1.00,-0.08,-0.21,-0.19, 0.63, 0.37,
        0.03, 0.49, 0.03,-0.08, 1.00, 0.47, 0.41,-0.14,-0.24,
       -0.29, 0.43,-0.13,-0.21, 0.47, 1.00, 0.63,-0.13,-0.15,
       -0.30, 0.30,-0.24,-0.19, 0.41, 0.63, 1.00,-0.26,-0.29,
        0.45,-0.31, 0.59, 0.63,-0.14,-0.13,-0.26, 1.00, 0.40,
        0.30,-0.17, 0.32, 0.37,-0.24,-0.15,-0.29, 0.40, 1.00
      )
R <- matrix(R, ncol = 9, byrow = TRUE)
R
```

```
##        [,1]  [,2]  [,3]  [,4]  [,5]  [,6]  [,7]  [,8]  [,9]
##  [1,]  1.00 -0.04  0.61  0.45  0.03 -0.29 -0.30  0.45  0.30
##  [2,] -0.04  1.00 -0.07 -0.12  0.49  0.43  0.30 -0.31 -0.17
##  [3,]  0.61 -0.07  1.00  0.59  0.03 -0.13 -0.24  0.59  0.32
##  [4,]  0.45 -0.12  0.59  1.00 -0.08 -0.21 -0.19  0.63  0.37
##  [5,]  0.03  0.49  0.03 -0.08  1.00  0.47  0.41 -0.14 -0.24
##  [6,] -0.29  0.43 -0.13 -0.21  0.47  1.00  0.63 -0.13 -0.15
##  [7,] -0.30  0.30 -0.24 -0.19  0.41  0.63  1.00 -0.26 -0.29
##  [8,]  0.45 -0.31  0.59  0.63 -0.14 -0.13 -0.26  1.00  0.40
##  [9,]  0.30 -0.17  0.32  0.37 -0.24 -0.15 -0.29  0.40  1.00
```