Exploratory Factor Analysis Exercise

The correlation matrix given below represent grading scores of 220 boys in six school subjects: (1) French; (2) English; (3) History; (4) Arithmetic; (5) Algebra and (6) Geometry.

Find the two-factor solution from a maximum likelihood factor analysis. Interpret the factor loadings. Then plot these derived loadings and interpret again. Was it easier to interpret the factors by looking at the visualization? Finally, find an non-orthogonal rotation that allows easier interpretation of the results looking at the factor loadings directly, without the "visual utility" that is afforded by plotting the two-factor solution first.

```
# French     1.00
# English    0.44 1.00
# History    0.41 0.35 1.00
# Arithmetic 0.29 0.35 0.16 1.00
# Algebra    0.33 0.32 0.19 0.59 1.00
# Geometry   0.25 0.33 0.18 0.47 0.46 1.00
```