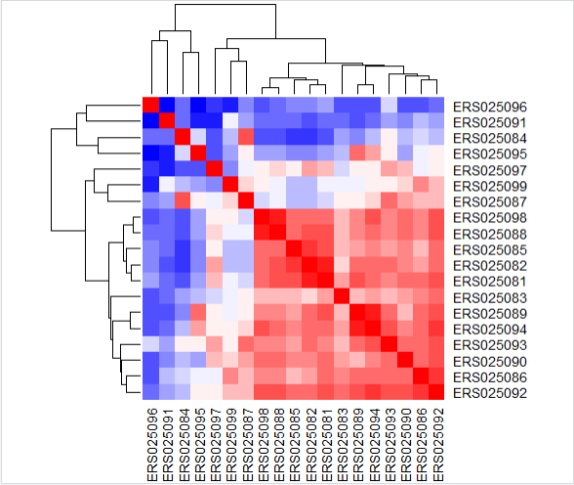
Question (1):

Read the data using these lines:

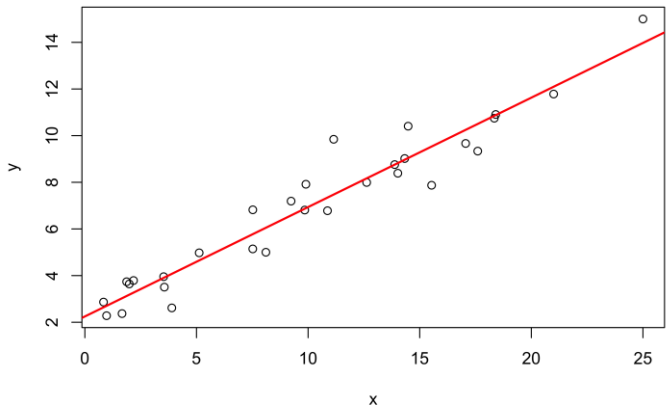
```
if (!requireNamespace("BiocManager", quietly = TRUE))
    install.packages("BiocManager")
BiocManager::install()

BiocManager::install("antiProfilesData")

datasetName <- antiProfilesData::apColonData

##Then read pdata, edata, and fdata of the datasetName as you learned from the labs.
```

(1.a), (1.b), (1.c), and (1.d) apply the request on the all possible columns in pdata, edata, and fdata.

(1.e) Calculate the correlation and covariance between the first 10 columns only **in the edata dataframe** and draw full correlation matrix; something like that:

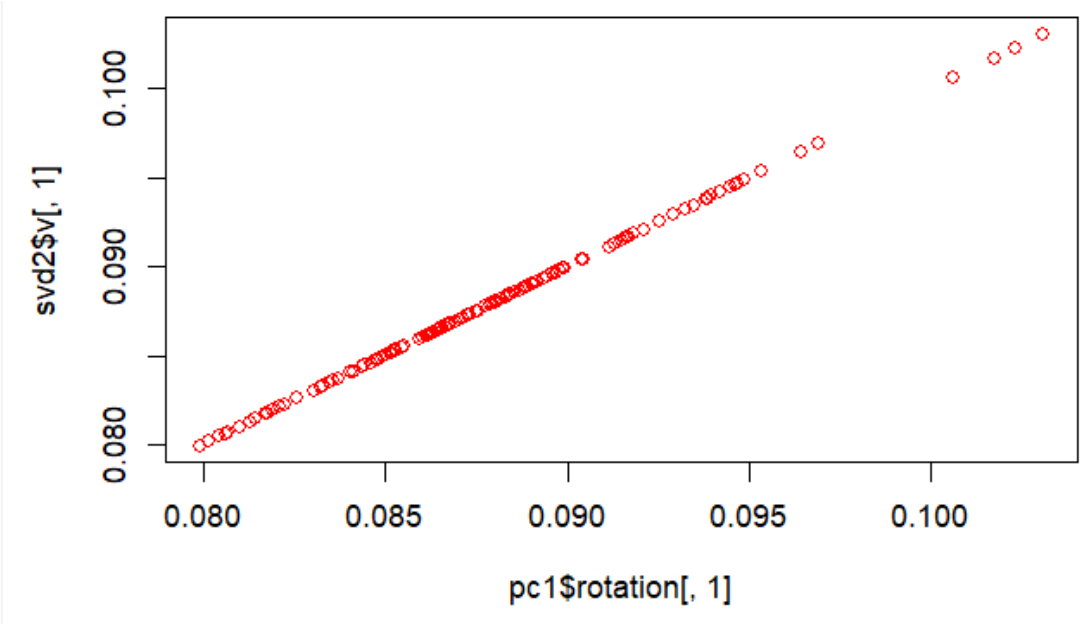


(1.f) For both genes: GSM95478, GSM95473 **in edata dataframe** show the plot with a line of their relation; something like that:



Question (2):

Prove by plotting expected to be something like that:



Question (3):

Test the hypothesis that zodiac signs evenly distributed across visual artists (probability of each zodiac sign=1/12).

Question (4):

Plot hierarchical clusters on our first 10 columns of edata and apply the kmeans to all the edata columns and show the centroid of the result.

(Assume k=3, so number of centroids must equal k value= 3 "and note that the centroids are columns in the edata").