1. Take the Pima.te data from the MASS library There are 7 quantitative variables. Using R, return the correlation matrix, the test statistic (using Fisher transformation) in a matrix and the p-values (within parentheses). For the same data, do all possible plots and comment on them, along with the correlation values. Report on your findings. Write some words, not just dry text.

*Useful command: plot(x), where x is a matrix.*

1. For each sample size n = (10, 15, 20, 30, 40, 50) repeat the following 1000 times.
2. Generate x = rbeta(n, 3, 4) and y = rexp(n, 1).
3. Store the p-value of the usual correlation test as explained in class (Fisher transformation).
4. Store the p-values using permutation testing.

Create a histogram of each set of 1000 p-values. Calculate the proportion of times the p-values were less than 0.05. So, you need to do steps 1-3 6 times, for each combination of samples and give me 12 histograms and 12 proportions. 6 histograms and proportions for the asymptotic p-values and 6 for the permutation-based p-values. Comment on what you see.