All calculations for all problems can and should be done in R. All relevant code concerning that should be submitted in a .R file (just like the ones I use to present material in class). Send me the .R file via email.

The attached text file `houseprice.txt` has data on the prices of 50 houses recently sold in the fictional town of Greenville.

1. Use an R function to read the data from this file into an R object. Assign it to a variable named `house_price`.
2. Find the mean and the variance for the prices of the houses.
3. What is the largest and smallest selling price?
4. Kurtosis is a statistic that can be calculated from data that measures how thick the tails of a distribution is: the smaller the kurtosis, the smaller the tails, and the larger the kurtosis, the larger the tails. The formula for calculating kurtosis is below. Why is kurtosis always positive? Use R to calculate kurtosis for the `Price` column.

$$\text{kurtosis} = \frac{\frac{1}{n}\sum_{i=1}^{n}(x_i - \bar{x})^4}{\left(\frac{1}{n}\sum_{i=1}^{n}(x_i - \bar{x})^2\right)^2}$$

   Kurtosis is typically compared to the number 3 because that is the kurtosis of the normal distribution. Do the prices have larger tails or smaller tails than the normal?