Questions for Sample R Session

Download R and answer the following questions based on the Sample R Session.

1. Give `exp(1)` to 4 decimal places.   2.7183

2. Give `mean(x)` and `sd(x)` for the 50 standard normal random variables.
   sd = 0.9713731, mean = 0.01414773

3. In sorting the values of x, what is the smallest value for x? the largest?
   Smallest = -2.29599960, Largest = 2.46573268

4. Explain what the following commands do in a plot
   a. "h"   h: generates a histogram, l: generates a line graph,
   b. "l"   s: Generates a step/stair graph , b: Generates both
   c. "s"   a histogram and a line plot
   d. "b"

5. Describe `seq(25,1,-1)` and `rep(0,25)`.
   seq(25,1,-1) gives a sequential set of numbers that starts at 25 and decreases to 1 by 1 each
   time (i.e. 25, 24, 23, ..., 1)
   rep(0,2) replicates the the first value to as many times as the second value dictates (i.e. this
   gives the number 0 twenty five times in a row)

6. Give the top row of the matrix A.
   [11, 20, 23, 3, 15, 11, 9, 12]

7. Give the second, third and fourth columns of the matrix A.

   second column (going down): [20 19 11]

   Third column (going down): [23, 24, 12]   fourth column (going down): [3 6 19]

8. Describe what `barplot(data)` shows.
   This function will give a segmented bar graph of whatever data is selected.

9. What does `abline` do?
   This function adds one or more straight lines to a plot.

10. Describe `table(fair)` and `table(biased)`. What do you think that this command is
    doing?
       table(fair) will make a table after "throwing a fair dice 1000 times". In other words, each
       number has equal probability of being generated on each throw. table(biased) would make
       a table after "throwing a biased dice 1000 times".

11. Describe `curve(dnorm(x),-3,3)`. Do you think that the contents of the variable x
    affect the result of this command?

       This gives a normal distribution of the data set x.

       The contents of x do not affect the result of the command