**Exercise-3**

1. Create a vector of 10 numbers of your choice, ex.-

d=c(10,15,16,18,20,25,18,15,16,21)

2. Calculate the mean (do not use predefined function ‘mean’) of vector ‘d’

3. Calculate the variance of vector ‘d’

4. Calculate the standard deviation of vector ‘d’ (avoid predefined function ‘sd’)

(You may cross check your answer through predefined functions like mean, sd etc)

5. Calculate the standard error of vector ‘d’ using predefined formula.

6. Create 100 sample from vector ‘d’ of each size 10 through bootstrapping/sampling with replacement.

7. Calculate mean of each sample (there is 100 samples)

8. Calculate std. dev. of 100 samples’ mean

9. Draw histogram of 100 mean of 100 sample and observer the output/interpret it.

10. Calculate the std. error of vector of 100s means and observe the similarity as got std. error in step 5.

11. Repeat steps from 6-10 with 1000 samples.