# Problem Statement

1. Create an m x n matrix with replicate(m, rnorm(n)) with m=10 column vectors of n=10 elements each, constructed with rnorm(n), which creates random normal numbers.

Then we transform it into a dataframe (thus 10 observations of 10 variables) and perform an algebraic operation on each element using a nested for loop: at each iteration, every element referred by the two indexes is incremented by a sinusoidal function, compare the vectorized and non-vectorized form of creating the solution and report the system time differences.

Solution : Refer Session2\_Assignment3\_Q1.R

Code itself runs Fifty simulations of the above Problem statements and plots the time difference for Dataframe and Matrix Process solutions as below. Data frame processing time is more than Matrix processing time.

