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.