**St. Xavier’s College (Autonomous), Kolkata**

**Department of Statistics**

**Problem Set 2**

**MDSC 4113/SEM I/CORE3/ MODULE 2 DATE:**

1. Enter the following using R:
2. An identity matrix of size 10
3. A Zero matrix of size 4x3
4. Use the matrix() function and a colon “:” to create a 6 × 6 matrix vector M such that

M=

1. Call the “Smarket” data set from ISLR package.

[install.packages("ISLR")

library(ISLR)

Smarket]

a). Use the dim() function to check the number of rows and columns in the dataset. “Smarket” data set is a 1250 × 9 matrix.

b). Pick up the second observation.

c). Pick up all the observations corresponding to Lag 3.

d). Create a new matrix M by picking up the 3rd, 4th, 7th, 9th and 10th rows of “Smarket” matrix.

1. Generate a 16 dimensional vector of random numbers from Poisson(3) and do the following:

a). Create a square matrix of size 4.

b). using the vector b = (1, 2, 0, 3), compare the operations M\*b and M%\*%b and comment.

c). Multiply M with an identity matrix I and compare the operations M\*I and M%\*%I.

d). If possible find the inverse of M.