SECTION III

1. R CODE FOR INVERSE OF THE GIVEN MATRIX IS

Let given matrix be A,

Code:

A = matrix(c(1, 3 -1, 0, 1, 2, -1, 0, 8), nrow= 3, ncol =3, byrow = TRUE);

Solve(A);

OUTPUT OF THR MATRIX:

>solve(A);

[,1] [,2] [,3]

[1,] 8 -24 7

[2,] -2 7 -2

[3,] 1 -3 1

2 SYSTEM OF LINEAR EQUATION

R CODE

A= matrix(c(-1 ,-5 ,3, -2 ,-7, 0, -1, -4, 1),nrow=3, ncol =3, byrow = TRUE);

B= matrix(c(4, 5, 3), nrow= 3, ncol= 1, byrow= TRUE);

X = matrix(c(x ,y,z),nrow=3, ncol= 1, byrow= TRUE);

X= solve(A)\* B;

Output:

The given input system gives the value of infinity due to singular matrix which was given to the working precision. So the warning error occurs when run the program.

Warning error: system is computationally singular : the reciprocal condition number = 3.46945e-19