**SECTION 3**

1. **#Inverse of the matrix**

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

print(A)

det(A) #if determinant is less than 1 there is no inverse for the matrix

C <- solve(A) # to find inverse of square matrix solve() function is used

print(C)

ANS:

(8 -24 7

-2 7 -2

1 -3 1)

1. **#Solve the system of linear equations**

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, byrow=TRUE)

X <- solve(A,b) #function for solving matrix obtained from polynomial equation

print(X)

ANS:

X (-2.5

Y 0.0

Z 0.5)