

IBH17CS022

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Q. write R program to create a matrix of 4 rows and 2 columns. load the data randomly using vector into the matrix. Calculate transpose, eigen, Inverse of matrix, then perform crossproduct of matrix operation. access subset of matrix elements of suitable rows & columns.

1.  $M \leftarrow \text{matrix}(\text{nrow} = 4, \text{ncol} = 2, \text{data} = c(1, 3, 5, 7, 9, 10, 11, 13),$   
 $\text{byrow} = \text{True})$   
 $\$$
2.  $m1 \leftarrow t(M)$  # transpose of matrix
3.  $m2 \leftarrow \text{eigen}(M)$  # eigen matrix
4.  ~~$ans \leftarrow \text{inv}(M)$~~   
 $M1 \leftarrow \text{matrix}(\text{nrow} = 3, \text{ncol} = 3, \text{data} = c(2, 1, 1, 3, 2, 1, 2, 1, 2),$   
 $\text{byrow} = \text{TRUE})$   
 $M1$   
 $m3 = \text{solve}(M1)$  # inverse of matrix  
 $m3$
5.  $\text{crossprod}(M1)$
6.  $M1[1, ]$   
 $M1[1:2]$   
 $M1[, 2:3]$   
 $M1[, 2]$