/\*File : Matrixmultiplication.java

\*Description : Java program to multiply any 2 given matrices

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\* Version : 1.0

\* Date : 06/10/2023

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PROGRAM

package javalab;

import java.util.Scanner;

public class Matrixmultiplication {

public static void main(String[] args)

{

Scanner obj=new Scanner(System.in);

System.out.print("Enter no of rows of first matrix: ");

int row1=obj.nextInt();

System.out.print("Enter no of columns of first matrix: ");

int col1=obj.nextInt();

System.out.print("Enter no of rows of second matrix: ");

int row2=obj.nextInt();

System.out.print("Enter no of column of second matrix: ");

int col2=obj.nextInt();

int first[][]=new int[row1][col1];

int second[][]=new int[row2][col2];

int product[][]=new int[row1][col2];

if(col1!=row2)

System.out.println("Multiplication not possible");

else

{

System.out.println("Enter elements of first matrix: ");

for(int i=0; i<row1; i++)

{

for(int j=0; j<col1; j++)

{

first[i][j]=obj.nextInt();

}

}

System.out.println("Enter elements of second matrix: ");

for(int i=0; i<row2; i++)

{

for(int j=0; j<col2; j++)

{

second[i][j]=obj.nextInt();

}

}

for(int i=0; i<row1; i++)

{

for(int j=0; j<col2; j++)

{

product[i][j]=0;

for(int k=0; k<col1; k++)

product[i][j]=product[i][j]+(first[i][k]\*second[k][j]);

}

}

System.out.println(“Product is : ”)

for(int i=0; i<row1; i++)

{

for(int j=0; j<col1; j++)

{

System.out.print(product[i][j]+"\t");

}

System.out.print("\n");

}

}

}

}

OUTPUT

(i) Enter no of rows of first matrix: 2

Enter no of columns of first matrix: 2

Enter no of rows of second matrix: 2

Enter no of column of second matrix: 2

Enter elements of first matrix: 1

2

3

4

Enter elements of second matrix: 2

4

6

8

Product is :

14 20

30 44

(ii) Enter no of rows of first matrix:2

Enter no of columns of first matrix:3

Enter no of rows of second matrix:2

Enter no of column of second matrix:3

Multiplication not possible