//4.1) Write a Java program to perform addition and multiplication of two matrices.

import java.io.\*;

import java.util.\*;

class Matrix

{

public static void main(String args[])

{

int r1,r2,c1,c2;

Scanner sc=new Scanner(System.in);

System.out.println("Enter no of rows and columns in matrix a");

r1=sc.nextInt();

c1=sc.nextInt();

System.out.println("Enter no of rows and columns in matrix b");

r2=sc.nextInt();

c2=sc.nextInt();

System.out.println("Enter elements in matrix a");

int i,j,k;

int a[][]=new int[r1][c1];

int b[][]=new int[r2][c2];

int c[][]=new int[r1][c1];

int m[][]=new int[r1][c2];

for(i=0;i<r1;i++)

{

for(j=0;j<c1;j++)

{

a[i][j]=sc.nextInt();

}

}

System.out.println("Enter elements in matrix b");

for(i=0;i<r2;i++)

{

for(j=0;j<c2;j++)

{

b[i][j]=sc.nextInt();

}

}

System.out.println("Matrix addition");

for(i=0;i<r1;i++)

{

for(j=0;j<c1;j++)

{

c[i][j]=a[i][j]+b[i][j];

}

}

for(i=0;i<r1;i++)

{

for(j=0;j<c1;j++)

{

System.out.print(c[i][j]+" ");

}

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

}

System.out.println("Matrix multiplication");

if(r1!=c2)

{

System.out.println("Matrix multiplication is not possible");

}

else

{

for(i=0;i<r1;i++)

{

for(j=0;j<c2;j++)

{

for(k=0;k<c2;k++)

{

m[i][j]=m[i][j]+a[i][k]\*b[k][j];

}

}

}

}

for(i=0;i<r1;i++)

{

for(j=0;j<c2;j++)

{

System.out.print(m[i][j]+" ");

}

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

}

}

}

OUTPUT:

