**PROGRAM:**

importjava.util.Scanner;

classmatrix\_multiplication{

publicstaticvoidmain(String[] args){

Scannersc= newScanner(System.in);

System.out.println("Enter no. of rows of matrix 1 : ");

introw1=sc.nextInt();

System.out.println("Enter no. of columns of matrix 1 : ");

intcols1=sc.nextInt();

System.out.println("Enter no. of rows of matrix 2 : ");

introw2=sc.nextInt();

System.out.println("Enter no. of columns of matrix 2 : ");

intcols2=sc.nextInt();

if(row2!=cols1){

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

}

else{

inti=0,j=0;

inta[][]=newint[row1][cols1];

intb[][]=newint[row2][cols2];

intc[][]=newint[row1][cols2];

System.out.println("Enter the elements of matrix 1 : ");

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

for(j=0;j<cols1;j++)

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

}

System.out.println("Enter the elements of matrix 2 : ");

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

for(j=0;j<cols2;j++)

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

}

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

for(j=0;j<cols2;j++){

for(intk=0;k<row2;k++)

c[i][j]=c[i][j]+(a[i][k]\*b[k][j]);

}

}

System.out.println("matrix 1 \* matrix 2 =");

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

for(j=0;j<cols2;j++)

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

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

}

}

}

}

***OUTPUT:***

Enter no. of rows of matrix 1 :

2

Enter no. of columns of matrix 1 :

2

Enter no. of rows of matrix 2 :

2

Enter no. of columns of matrix 2 :

2

Enter the elements of matrix 1 :

1

2

3

4

Enter the elements of matrix 2 :

5

6

7

8

matrix 1 \* matrix 2 =

19 22

43 50