Matrix multiplicatoin :

1 import java.util.Scanner;  
 2   
 3 public class MatixMultiplication  
 4 {  
 5 public static void main(String args[])  
 6 {  
 7 int n;  
 8 Scanner input = new Scanner(System.in);  
 9 System.out.println("Enter the base of squared matrices");  
10 n = input.nextInt();  
11 int[][] a = new int[n][n];  
12 int[][] b = new int[n][n];  
13 int[][] c = new int[n][n];  
14 System.out.println("Enter the elements of 1st martix row wise \n");  
15 for (int i = 0; i < n; i++)  
16 {  
17 for (int j = 0; j < n; j++)  
18 {  
19 a[i][j] = input.nextInt();  
20 }  
21 }  
22 System.out.println("Enter the elements of 2nd martix row wise \n");  
23 for (int i = 0; i < n; i++)  
24 {  
25 for (int j = 0; j < n; j++)  
26 {  
27 b[i][j] = input.nextInt();  
28 }  
29 }  
30 System.out.println("Multiplying the matrices...");  
31 for (int i = 0; i < n; i++)  
32 {  
33 for (int j = 0; j < n; j++)  
34 {  
35 for (int k = 0; k < n; k++)  
36 {  
37 c[i][j] = c[i][j] + a[i][k] \* b[k][j];  
38 }  
39 }  
40 }  
41 System.out.println("The product is:");  
42 for (int i = 0; i < n; i++)  
43 {  
44 for (int j = 0; j < n; j++)  
45 {  
46 System.out.print(c[i][j] + " ");  
47 }  
48 System.out.println();  
49 }  
50 input.close();  
51 }  
52 }

Matrix addition:

1 import java.util.\*;  
 2 class Sum\_first\_matrix  
 3 {  
 4 Scanner obj;  
 5 int m,n,i,j;  
 6 int [][] a;  
 7 int [][] b;  
 8 int [][] c;  
 9 public void matrix\_create()  
 10 {  
 11 obj=new Scanner(System.in);  
 12 System.out.println("Enter The rows and columns");  
 13 m=obj.nextInt();  
 14 n=obj.nextInt();  
 15 System.out.println("Enter the array elements");  
 16 a=new int[m][n];  
 17 b=new int [m][n];  
 18 c=new int[m][n];  
 19 for(i=0;i<m;i++)  
 20 {  
 21 for(j=0;j<n;j++)  
 22 {  
 23 a[i][j]=obj.nextInt();  
 24 }  
 25 }  
 26 }  
 27 void display()  
 28 {  
 29 System.out.println("The array is");  
 30 for(int i=0;i<m;i++)  
 31 {  
 32 for(int j=0;j<n;j++)  
 33 {  
 34 System.out.print("\t" + a[i][j]);  
 35 }  
 36 System.out.println();  
 37 }  
 38 }  
 39 public void second\_matrix\_create()  
 40 {  
 41   
 42 System.out.println("Enter the Second array elements");  
 43   
 44 for(i=0;i<m;i++)  
 45 {  
 46 for(j=0;j<n;j++)  
 47 {  
 48 b[i][j]=obj.nextInt();  
 49 }  
 50 }  
 51 }  
 52 void second\_display()  
 53 {  
 54 System.out.println("The array is");  
 55 for(int i=0;i<m;i++)  
 56 {  
 57 for(int j=0;j<n;j++)  
 58 {  
 59 System.out.print("\t" + b[i][j]);  
 60 }  
 61 System.out.println();  
 62 }  
 63 }  
 64 }  
 65 class Second\_matrix extends Sum\_first\_matrix  
 66 {  
 67 public void add()  
 68 {  
 69   
 70 for(int i=0;i<m;i++)  
 71 {  
 72 for(int j=0;j<n;j++)  
 73 {  
 74 c[i][j]= a[i][j] + b[i][j];  
 75 }  
 76 }  
 77 }  
 78 void add\_display()  
 79 {  
 80 System.out.println("The Summed array is");  
 81 for(int i=0;i<m;i++)  
 82 {  
 83 for(int j=0;j<n;j++)  
 84 {  
 85 System.out.print("\t" + c[i][j]);  
 86 }  
 87 System.out.println();  
 88 }  
 89 }  
 90 }  
 91 class Main  
 92 {  
 93 public static void main(String args[])  
 94 {  
 95 Second\_matrix obj1=new Second\_matrix();  
 96 obj1.matrix\_create();  
 97 obj1.display();  
 98 obj1.second\_matrix\_create();  
 99 obj1.second\_display();  
100 obj1.add();  
101 obj1.add\_display();  
102 }  
103 }