```
import java.io.*;
import java.util.*;
class Transpose{
        public static void main(String args[]){
        Scanner sc =new Scanner(System.in);
        int r1,c1,i,j;
        System.out.print("Enter no of rows    = ");
        r1=sc.nextInt();
        System.out.print("Enter no of columns = ");
        c1=sc.nextInt();
        int a[][]=new int[r1][c1];
        System.out.println("Enter the elements of 1st matrix");
        for(i=0;i<r1;i++){
                for(j=0;j<c1;j++){
                        a[i][j]=sc.nextInt();
                }
        }
        System.out.println("The original matrix");
        for(i=0;i<r1;i++){
                for(j=0;j<c1;j++){
                        System.out.print(a[i][j]+"  ");
                }
                System.out.println();
        }
        System.out.println("The transpose matrix");
        for(i=0;i<r1;i++){
                for(j=0;j<c1;j++){
                        System.out.print(a[j][i]+"  ");
                }
                System.out.println();
        }
}}



import java.io.*;
import java.util.*;
class Employee{
        String name;
        String address;
        int age;
        long phonenumber;
        double salary;
        void printsalary(){
        System.out.println(name+" " +address+ " " +age+ " "  + phonenumber +  "
Salary = " +salary);
}}
class officer extends Employee{
        String specialization;
        officer(String name,String address,int age,long phonenumber,double salary){
                super.name=name;
                super.address=address;
                super.age=age;
                super.phonenumber=phonenumber;
                super.salary=salary;
}}
class manager extends Employee{
        String departement;
        manager(String name,String address,int age,long phonenumber,double salary){
                super.name=name;
                super.address=address;
                super.age=age;
                super.phonenumber=phonenumber;
                super.salary=salary;
}}
class E{
```

```
        public static void main(String args[]){
        officer ob1= new officer("Benny", "Cheriyaveed", 19, 26144553, 25000.0);
        manager ob2= new manager("Ronny", "Valiyaveed ", 34, 26345676, 30000.0);
        ob1.printsalary();
        ob2.printsalary();
}}


import java.io.*;
import java.util.*;
abstract class Shape{
        abstract void numberOfSides();
}
class Rectangle extends Shape{
        void numberOfSides(){
                System.out.println("No.of sides of Rectangle = 4 ");
        }
}
class Triangle extends Shape{
        void numberOfSides(){
                System.out.println("No.of sides of Triangle  = 3 ");
        }
}
class Hexagon extends Shape{
        void numberOfSides(){
                System.out.println("No.of sides of Hexagon   = 6");
        }
}
class Sides{
        public static void main(String args[]){
                Rectangle ob1 = new Rectangle();
                Triangle ob2 = new Triangle();
                Hexagon ob3 = new Hexagon();
                ob1.numberOfSides();
                ob2.numberOfSides();
                ob3.numberOfSides();
}}


import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;
public class Buffer{
        public static void main(String args[])throws IOException{
                BufferedReader obj = new BufferedReader(new InputStreamReader
(System.in));
                System.out.println("hello world");
                char data = (char)obj.read();
                System.out.println(data);
}}



import java.io.*;
import java.util.*;
class Stringrev{
        public static void main(String args[]){
        String str;
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter the string : ");
        str = sc.nextLine();
        int l = str.length();
        String Reverse = "";
        for(int i=l-1;i>=0;i--){
                Reverse = Reverse + str.charAt(i);
        }
```

```
        System.out.print("Reversed String : "+Reverse);
        System.out.println();
}}


import java.io.*;
import java.util.*;
interface Interface{
        public void fun();
}
class A implements Interface{
        public void fun(){
        System.out.println("Interface Inheritance");
}}
public class Inherit{
        public static void main(String args[]){
        A ob1 = new A();
        ob1.fun();
}}



import java.io.*;
import java.util.*;
class Exception{
        public static void main(String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter value of a = ");
        int a = sc.nextInt();
        System.out.print("Enter value of b = ");
        int b = sc.nextInt();
        int c;
        try{
                c=a/b;
                System.out.println("Result = "+c);

        }
        catch(ArithmeticException ob1){
                System.out.println("Exception detected!!!");
        }
        System.out.println("you can proceed the program");
        System.out.print("Enter another value of a = ");
        int d = sc.nextInt();
        System.out.print("Enter another value of b = ");
        int e = sc.nextInt();
        c = d/e;
        System.out.println("Result = "+c);
}}


import java.io.*;
class GC{
        public void finalize(){
                System.out.println("Garbage collected");
                System.out.println();
}}
class Garbage{
        public static void main(String args[]){
        GC obj1 = new GC();
        GC obj2 = new GC();
        obj1 = null;
        obj2 = null;
        System.gc();
}}
```

```
import java.io.*;
import java.util.*;
class Secondsmall{
        public static void main(String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter size of the array = ");
        int n =sc.nextInt();
        int a[] = new int[n];
        System.out.println("Enter the array elements one by one");
        int i,j,swap,s1=0,s2=0;
        for(i=0;i<n;i++){
                a[i]=sc.nextInt();
        }
        for(i=0;i<n-1;i++){
                for(j=0;j<n;j++){
                        if(a[i]<s1){
                                s1=a[i];
                                if(a[j]<s2){
                                        s2=a[i];
                                }
                        }
                }
        }
        System.out.println("The second smallest element = "+s2);
}}

package pack1;
import java.util.*;
public class Shape{
        public static void area(int l,int b){
                int area = l*b;
                System.out.println("Area of rectangle = "+area);
}}

package pack3;
public class Shape1{
        public static void area(int a,int b){
                int area = a*b;
                System.out.println("Area = "+area);
        }
}


package pack2;
import java.util.*;
import pack1.Shape;
class Rectangle{
        public static void main(String args[]){
        Shape.area(3,5);
}}


package pack4;
import pack3.Shape1;
class Rectangle2{
        public static void main(String args[]){
                Shape1 obj = new Shape1();
                obj.area(12,42);
}}
```