//Q.1 Write a Program to check given number is odd or even?

```
class evenodd
{
	public static void main(String args[])
	{
		int a=Integer.parseInt(args[0]);
		if(a%2==0)
		{
			System.out.println("a is Even.");
		}
		else
		{
			System.out.println("a is odd");
		}
	}
}
```

```
/*Q.2 Write a Program to swap the content of two variables
    without using third variable?*/


class demo {
 public static void main(String args[]) {
  System.out.println("Before swapping");
  int x = Integer.parseInt(args[0]);
  int y = Integer.parseInt(args[1]);
  System.out.println("value of x:" + x);
  System.out.println("value of y:" + y);
  System.out.println("After swapping");
  x = x + y;
  y = x - y;
  x = x - y;
  System.out.println("value of x:" + x);
  System.out.println("value of y:" + y);
 }
}
```

//Q.3 Write a Program to find Simple Interest for given data?

```
class simpleinterest
{
	public static void main(String args[])
	{
		int p=Integer.parseInt(args[0]);
		int q=Integer.parseInt(args[1]);
		int r=Integer.parseInt(args[2]);
		int interest=(p*q*r/100);
		System.out.println("Your Simple Interest is:"+interest);
	}
}
```

//Q.4 Write a Program to print the Factorial of a number?

```
class fact
{
	public static void main(String args[])
	{
	int i,factorial=1;
	int no=Integer.parseInt(args[0]);
	for(i=1;i<=no;i++)
		{
			factorial=factorial*i;
		}
	System.out.println("Factorial of your number:"+factorial+no);
	}
}
```

//Q.5 Write a Program to print multiplication table?

```
class table
{
	public static void main(String args[])
	{
		int n=Integer.parseInt(args[0]);
		for(int i=1;i<=10;i++)
		{
			System.out.println(n+"*"+i+"="+n*i);
		}
	}
}
```

//Q.6 Write a Program to print Fibonacci series?

```
class fibonacci
{
	public static void main(String args[])
	{
		int n=Integer.parseInt(args[0]),firstTerm=0,secondTerm=1;
		System.out.println("Fibonacci Series till " + n + " terms");
		for(int i=1;i<=n;i++)
		{
			System.out.print(firstTerm+",");
			int nextTerm = firstTerm + secondTerm;
			firstTerm = secondTerm;
			secondTerm = nextTerm;
		}
	}
}
```

//Q.7 Write a Program to convert Fahrenheit to Centrigrade?

```
class convert
{
	public static void main(String args[])
	{
		float Fahrenheit,Centrigrade;
		Fahrenheit=Integer.parseInt(args[0]);
		Centrigrade=((Fahrenheit-32)*5)/9;
		System.out.println("Value in Centrigrade:"+Centrigrade);
	}
}
```

//Q.8 Write a Program to display area and circumference of a circle?

```
class arcir
{
	public static void main(String args[])
	{
		int r=Integer.parseInt(args[0]);
		double x=3.14,area,circumference;
		area=x*r*r;
		circumference=2*x*r;
		System.out.println("Area of circle:"+area);
		System.out.println("Circumference of circle:"+circumference);
	}
}
```

```
/*Q.9 Write a Program to display addition,substraction,multiplication,division
        of two integers by command line?*/


class command
{
        public static void main(String args[])
        {
                int a=Integer.parseInt(args[0]);
                int b=Integer.parseInt(args[1]);


                int sum=a+b;
                System.out.println("Sum="+sum);


                int substraction=a-b;
                System.out.println("Substraction="+substraction);


                int multiplication=a*b;
                System.out.println("Multiplication="+multiplication);


                int division=a/b;
                System.out.println("Division="+division);
        }
}
```

//Q.10 Write a Program to print whether the number is Palindrome or not?

```
class palindrome
{
	public static void main(String args[])
	{
		int r,sum=0,temp;
		int n=Integer.parseInt(args[0]);

		temp=n;
		while(n>0)
		{
			r=n%10;
			sum=(sum*10)+r;
			n=n/10;
		}
		if(temp==sum)
		System.out.println("Palindrome Number.");
		else
		System.out.println(" Not a Palindrome Number.");
	}
}
```

//Q.11 Write a Program to print the Pascal Triangle?

```
import java.util.*;
class pascal
{
	public static void main(String args[])
	{
		int rows,c=1,blank,i,j;
		System.out.println("Enter number of rows:");
		Scanner s=new Scanner(System.in);
		rows=s.nextInt();
		for(i=0;i<rows;i++)
		{
			for(blank=1;blank<=rows-i;blank++)
				System.out.print("");
			for(j=0;j<=i;j++)
			{
				if(j==0||i==0)
					c=1;
				else
					c=c*(i-j+1)/j;
				System.out.print(""+c);
			}
			System.out.print("\n");
		}
	}
}
```

```
//Q.12 Write a Program to find Armstrong no btw 100 and 1000?


import java.util.*;
class armstrong
{
	public static void main(String args[])
	{
		int m,s;
		Scanner f=new Scanner(System.in);
		System.out.println("Enter the First Number:");
		m=f.nextInt();
		System.out.println("Enter the Second Number:");
		s=f.nextInt();

		for(int i=m;i<s;i++)
		{
			int n,b,sum=0;
			n=i;
			while(n>0)
			{
				b=n%10;
				sum=sum+(b*b*b);
				n=n/10;
			}
			if(sum==i)
			{
				System.out.println(""+i+" is a Armstrong number.");
```

```
                    }
                }
            }
        }
```

```
//Q.13 Write a Program to print your NAME,ADDRESS and MOBILE NO ?


import java.util.*;
class simpleone
{
	public static void main(String args[])
	{
		int m;
		String n,a;
		Scanner s=new Scanner(System.in);

		System.out.println("Enter Your Name:");
		n=s.nextLine();

		System.out.println("Enter Your Address:");
		a=s.nextLine();

		System.out.println("Enter Your Mobile No:");
		m=s.nextInt();

	}
}
```

```
/*Q.14 Write a Program to display addition of the numbers on
            even and odd locations in an array of 10 elements?*/


import java.util.*;
class evenodd
{
   public static void main(String args[])
   {
      int number,i,even=0,odd=0;


                     Scanner s=new Scanner(System.in);


                    System.out.println("Please Enter Your Number:");


                    number=s.nextInt();


      for (i = 0; i < number; i++) {
         if (i % 2 == 0)
            even = even+i;
         else
            odd = odd+i;
      }


      System.out.println("Even index positions sum: " + even);
      System.out.println("Odd index positions sum: " + odd);
   }
}
```

//Q.15 Write a Program that will Calculate summation of two 3X3 matrix?

```
import java.util.*;

class summatrix
{
	public static void main(String args[])
	{
		int m,n,p,q,sum=0,c,d,k;
		Scanner s=new Scanner(System.in);
		System.out.println("Enter the number of rows and columns of 1st Matrix:");
		m=s.nextInt();
		n=s.nextInt();
		int first[][]=new int[m][n];
		System.out.println("Enter the Elements of 1st Matrix:");
		for(c=0;c<m;c++)
			for(d=0;d<n;d++)
				first[c][d]=s.nextInt();

		System.out.println("Enter the number of rows and columns of 2nd Matrix:");
		p=s.nextInt();
		q=s.nextInt();
		if(n!=p)
		System.out.println("The Matrix cannot be added.");
		else
		{
			int second[][]=new int[p][q];
```

```
                int addition[][]=new int[m][q];
                System.out.println("Enter the Elements of 2nd Matrix");
                for(c=0;c<p;c++)
                for(d=0;d<q;d++)
                        second[c][d]=s.nextInt();
                for (c=0;c<m;c++)
                {
                        for(d=0;d<q;d++)
                        {
                                for(k=0;k<p;k++)
                                {
                                        sum=sum+first[c][k]+second[k][d];
                                }
                                addition[c][d]=sum;
                                sum=0;
                        }
                }
                System.out.println("Sum of the Matrix");
                for(c=0;c<m;c++)
                {
                        for(d=0;d<q;d++)
                                System.out.print(addition[c][d]+"\t");
                        System.out.print("\n");
                }
        }
    }
}
```

//Q.16 Write a Program that will Calculate multiplication of two 3X3 matrix?

```
import java.util.*;

class matrix
{
	public static void main(String args[])
	{
		int m,n,p,q,sum=0,c,d,k;
		Scanner s=new Scanner(System.in);
		System.out.println("Enter the number of rows and columns of 1st Matrix:");
		m=s.nextInt();
		n=s.nextInt();
		int first[][]=new int[m][n];
		System.out.println("Enter the Elements of 1st Matrix:");
		for(c=0;c<m;c++)
			for(d=0;d<n;d++)
				first[c][d]=s.nextInt();

		System.out.println("Enter the number of rows and columns of 2nd Matrix:");
		p=s.nextInt();
		q=s.nextInt();
		if(n!=p)
		System.out.println("The Matrix cannot be multiplied.");
		else
		{
			int second[][]=new int[p][q];
```

```
                int multiply[][]=new int[m][q];
                System.out.println("Enter the Elements of 2nd Matrix");
                for(c=0;c<p;c++)
                for(d=0;d<q;d++)
                        second[c][d]=s.nextInt();
                for (c=0;c<m;c++)
                {
                        for(d=0;d<q;d++)
                        {
                                for(k=0;k<p;k++)
                                {
                                        sum=sum+first[c][k]*second[k][d];
                                }
                                multiply[c][d]=sum;
                                sum=0;
                        }
                }
                System.out.println("Product of the Matrix");
                for(c=0;c<m;c++)
                {
                        for(d=0;d<q;d++)
                                System.out.print(multiply[c][d]+"\t");
                        System.out.print("\n");
                }
        }
    }
}
```

```
//Q.17 Write a Program to count no. of UPPERCASE and LOWERCASE in a string?
import java.util.*;
class upperlower
{
	public static void main(String args[])
	{
		String str;
		int upper=0,lower=0;
		Scanner s=new Scanner(System.in);
		System.out.println("Enter the String:");
		str=s.nextLine();
		for(int i=0;i<str.length();i++)
		{
			char ch=str.charAt(i);
			if(ch>='A' && ch<='Z')
			{
				upper++;
			}
			else if(ch>='a' && ch<='z')
			{
				lower++;
			}
		}
		System.out.println("Lower Case :"+lower);
		System.out.println("Upper Case :"+upper);
	}
}
```

```
//Q.18 Write a Program to read a string and rewrite it alphabetical
//            Eg. COMPUTER be written like CEMOPRTU


import java.util.*;


class computer
{
        public static void main(String args[])
        {
                char temp=0;
                Scanner s=new Scanner(System.in);
                System.out.println("Enter the String:");
                String str=s.nextLine();
                char[]chars=str.toCharArray();


                for(int i=0;i<chars.length;i++)
                {
                        for(int j=0;j<chars.length;j++)
                        {
                                if(chars[j]>chars[i])
                                {
                                        temp=chars[i];
                                        chars[i]=chars[j];
                                        chars[j]=temp;
                                }
                        }
                }
```

```
                for(int i=0;i<chars.length;i++)
                {
                        System.out.print(chars[i]);
                }
        }
}
```

```
//Q.19 Write a Program to arrange the different students names in name wise
//          increasing order?


import java.util.*;
class studentlist
{
        public static void main(String args[])
        {
                int n;
                String temp;
                Scanner st=new Scanner(System.in);


                System.out.println("Enter the number of Names you would like to enter:");
                n=st.nextInt();


                String names[]=new String[n];
                Scanner str=new Scanner(System.in);


                System.out.println("Enter the Names:");
                for(int i=0;i<n;i++)
                {
                        names[i]=str.nextLine();
                }
                for(int i=0;i<n;i++)
                {
                        for(int j=1;j<n;j++)
                        {
```

```
                    if(names[j-1].compareTo(names[j])>0)
                    {
                        temp=names[j-1];
                        names[j-1]=names[j];
                        names[j]=temp;
                    }
                }
            }
            System.out.println("Names in sorted order.");
            for(int i=0;i<=n;i++)
            {
                System.out.print(names[i]+",");
            }
        }
}
```

```
/*Q.20 Write a java program to demonstrate the 4 difference
        way to method implementation.
        (1. No Passing No returning 2. No Passing and returning
        3. Passing Something and Returning 4. Passing Something and Not returning)*/


import java.util.Scanner;
class Method{
   void display()
   {
      Scanner obj= new Scanner(System.in);
      int a;
      System.out.println("Enter the number");
      a=obj.nextInt();
      System.out.println("Your number is "+a);
   }
   int show()
   {
      Scanner obj= new Scanner(System.in);
      int a;
      System.out.println("Enter the number");
      a=obj.nextInt();
      return a;
   }
   int hello(int a)
   {
      Scanner obj= new Scanner(System.in);
      int b;
```

```
        System.out.println("Enter the number");
        b=obj.nextInt();
        return a+b;
    }
    void world(int a)
    {
        Scanner obj= new Scanner(System.in);
        int b;
        System.out.println("Enter the number");
        b=obj.nextInt();
        System.out.println(a+b);
    }
}
class pr20 {
    public static void main(String args[])
    {
        Method a= new Method();
        a.display();
        a.show();
        a.hello(12);
        a.world(12);
    }
}
```

```
//Q.21 Write a Program to implement constructor overloading?


import java.util.*;
class Student{
   int id;
   String name;


   Student(){
      System.out.println("this a default constructor");
   }


   Student(int i, String n){
      id = i;
      name = n;
   }
}


class consover {
      public static void main(String[] args) {
      //object creation
      Student s = new Student();
      Scanner obj= new Scanner(System.in);
      int a;
      String b;
      System.out.println("Enter your student id");
      a= obj.nextInt();
      System.out.println("Enter your name");
```

```
b= obj.next();

Student student = new Student(a, b);

System.out.println("Student Id : "+student.id + "\nStudent Name : "+student.name);

}

}
```

```
//Q.22 Write a Program to implement the MultiLevel Inheritance?


import java.util.Scanner;
class Animal {
   void eat() {
      Scanner obj= new Scanner(System.in);
      String a;
      System.out.println("What animal do?");
      a=obj.next();
   }
}

class Dog extends Animal {
   void bark() {
      Scanner obj= new Scanner(System.in);
      String a;
      System.out.println("Dogs comes in animal category?");
      a=obj.next();
   }
}

class BabyDog extends Dog {
   void weep() {
      Scanner obj= new Scanner(System.in);
      String a;
      System.out.println("Do baby dogs look cute");
      a=obj.next();
```

```
    }
}


class multiinher {
    public static void main(String args[]) {
        BabyDog d = new BabyDog();
        d.eat();
        d.bark();
        d.weep();
    }
}
```

//Q.23 Write a Program to invoke constructor using "SUPER" keyword?

```
class student4
{
	int sid;
	String sname;
	student4()
	{
		sid=101;
		sname="Fame";
	}
	void get()
	{
		System.out.println("Sid="+sid);
		System.out.println("Sname="+sname);
	}
}

class teacherr extends student4
{
	int tid;
	String tname;
	teacherr()
	{
		super();
		tid=101;
		tname="Mahipal";
```

```
	}

	void display()
	{
		super.get();
		System.out.println("Tname="+tname);
		System.out.println("Tid="+tid);

	}
}

class super2
{
	public static void main(String args[])
	{
		teacherr t=new teacherr();
		t.display();
	}
}
```

```
//Q.24 Write a Program to make a result card?


import java.io.*;
import java.util.*;


class Student
{
	Scanner sc=new Scanner(System.in);
	int regno,total=0,subjects;
	String name;
	int marks[];
	Student()
	{
		System.out.println("Enter Registration No:");
		regno=sc.nextInt();
		System.out.println("Enter Student Name:");
		name=sc.next();
		GetMarks();
	}
	public void GetMarks()
	{
		marks=new int[3];
		System.out.println("Enter marks of OOP:");
		marks[0]=sc.nextInt();


		System.out.println("Enter marks of OS:");
		marks[1]=sc.nextInt();
```

```
                System.out.println("Enter marks of DBMS:");
                marks[2]=sc.nextInt();

                for(int i=0;i<3;i++)
                {
                        total+=marks[i];
                }
                System.out.println("Total Marks Of Students:" +name+ ":" +total);
        }
}
class result
{
        public static void main(String args[])
        {
                Student s[]=new Student[2];
                for(int i=0;i<2;i++)
                        s[i]=new Student();
        }
}
```

//Q.25 Write a Program to print Dynamic Dispatch Method?

```
import java.util.Scanner;
class Animal {
   public void move() {
      Scanner obj= new Scanner(System.in);
      String a;
      System.out.println("What animal do?");
      a=obj.next();
   }
}
 class Dog extends Animal {
   public void move() {
      Scanner obj= new Scanner(System.in);
      String a;
      System.out.println("Dogs comes in animal category?");
      a=obj.next();
   }
}
class animals.java {
   public static void main(String args[]) {
      Animal a = new Animal();
      Animal b = new Dog();
      a.move();
      b.move();
   }
}
```