1. prime or com

public class PrimeComposite {

    public static void main(String[] args) {

        int arr[] = {4, 54, 29, 71, 7, 59, 98, 23};

        int com = 0, pri = 0;

        for (int i = 0; i < arr.length; i++) {

            int c = 0;

            for (int j = 1; j <= arr[i]; j++) {

                if (arr[i] % j == 0) {

                    c++;

                }

            }

            if (c > 2) {

                com++;

            } else

            {

                pri++;

            }

        }

        System.out.println("Composite Numbers: " + com);

        System.out.println("Prime Numbers: " + pri);

    }

}

1. max and min

public class minmax{

    public static void main(String[] args) {

        int arr[]={1,23,45,6,7};

        int len=arr.length;

        for(int i=0;i<len;i++)

        {

            for(int j=i+1;j<len;j++)

            {

                if(arr[i]>arr[j]){

                    int temp=arr[i];

                    arr[i]=arr[j];

                    arr[j]=temp;

                }

            }

        }

        int m=1,n=3;

        int max=arr[len-m];

        int min=arr[n-1];

        System.out.println("maximum is"+max);

        System.out.println("minimun is"+min);

        int sum=max+min;

        int diff=max-min;

        System.out.println("sum is"+sum);

        System.out.println("difference is"+diff);

    }

}

1. Atm

public class atm{

    public static void main(String[] args){

        int n1=500, n2=100,n3=200,n4=2000;

        int d1=4,d2=20,d3=32,d4=1;

        int total=(n1\*d1)+(n2\*d2)+(n3\*d3)+(n4\*d4);

        System.out.println("atm available is="+total);

    }

}

1. Palindrome

public class plaindrome{

    public static void main(String[] args){

        String s1="man";

        String s2=" ";

        int len=s1.length();

        for(int i=len-1;i>=0;i--)

        {

            s2=s2+s1.charAt(i);

        }

        if(s1.equals(s2))

        {

            System.out.println("palindrome");

        }else{

            System.out.println("not");

        }

    }

}

1. Binary

public class binary{

    public static void main(String[] args){

       int dec=15;

       String bin=Integer.toBinaryString(dec);

       String oct=Integer.toOctalString(dec);

       System.out.println("binary is"+bin);

       System.out.println("octal is"+oct);

    }

}

6.In an organization they decide to give bonus to all the employees on New Year. A 5%

bonus on salary is given to the grade A workers and 10% bonus on salary to the grade

B workers. Write a program to enter the salary and grade of the employee. If the salary

of the employee is less than $10,000 then the employee gets an extra 2% bonus on

salary Calculate the bonus that has to be given to the employee and print the salary that

the employee will get.

import java.util.Scanner;

public class EmployeeBonus {

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);

        double bonus = 0;

        System.out.print("Enter the grade of the employee: ");

        char grade = input.next().charAt(0);

        System.out.print("Enter the salary of the employee: ");

        int salary = input.nextInt();

        if (grade == 'A') {

            bonus = salary \* 0.05;

            if (salary < 10000) {

                bonus += salary \* 0.02;

            }

        } else if (grade == 'B') {

            bonus = salary \* 0.1;

            if (salary < 10000) {

                bonus += salary \* 0.02;

            }

        } else {

            System.out.println("Enter valid grade");

            return;

        }

        System.out.println("Salary = " + salary);

        System.out.println("Bonus = " + bonus);

        System.out.println("Total to be paid = " + (salary + bonus));

    }

}

7.Write a program to print the first n perfect numbers. (Hint Perfect number means **a**

**positive integer that is equal to the sum of its proper divisors)**

import java.util.Scanner;

public class PerfectNumbers {

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);

        System.out.print("Enter the number of perfect numbers to display: ");

        int n = input.nextInt();

        int count = 0;

        int number = 2;

        while (count < n) {

            int sum = 1;

            for (int i = 2; i <= number / 2; i++) {

                if (number % i == 0) {

                    sum += i;

                }

            }

            if (sum == number) {

                System.out.print(number + " ");

                count++;

            }

            number++;

        }

    }

}

8.Write a program to enter the marks of a student in four subjects.

Then calculate the total and aggregate, display the grade obtained

by the student. If the student scores an aggregate greater than

75%, then the grade is Distinction. If aggregate is 60>= and <75,

then the grade is First Division. If aggregate is 50 >= and <60,

then the grade is Second Division. If aggregate is 40>= and <50,

then the grade is Third Division. Else the grade is Fail.

public class StudentGrades {

    public static void main(String[] args) {

        int a1 = 90;

        int a2 = 91;

        int a3 = 92;

        int a4 = 23;

        int total = a1 + a2 + a3 + a4;

        float agg = total / 4f;

        System.out.println("Total: " + total);

        System.out.println("Aggregate: " + agg);

        if (agg > 75) {

            System.out.println("DISTINCTION");

        } else if (agg >= 60 && agg < 75) {

            System.out.println("First Division");

        } else if (agg >= 50 && agg < 60) {

            System.out.println("Second Division");

        } else if (agg >= 40 && agg < 50) {

            System.out.println("Third Division");

        } else {

            System.out.println("Fail");

        }

    }

}

9.Write a program to calculate tax given the following conditions:

a. If income is less than or equal to 1,50,000 then no tax

b. If taxable income is 1,50,001 – 3,00,000 the charge 10% tax

c. If taxable income is 3,00,001 – 5,00,000 the charge 20% tax

d. If taxable income is above 5,00,001 then charge 30% tax

import java.util.Scanner;

public class IncomeTaxCalculator {

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);

        System.out.print("Enter your income: ");

        int income = input.nextInt();

        float tax;

        if (income <= 150000) {

            System.out.println("No tax");

        } else if (income >= 150001 && income <= 300000) {

            tax = income \* 0.10f;

            System.out.println("Tax = " + tax);

        } else if (income >= 300001 && income <= 500000) {

            tax = income \* 0.20f;

            System.out.println("Tax = " + tax);

        } else {

            tax = income \* 0.30f;

            System.out.println("Tax = " + tax);

        }

    }

}

10.Write a program to print the multiplication table of number m up to n.

public class MultiplicationTable {

    public static void main(String[] args) {

        int M = 9;

        int N = 9;

        for (int i = 1; i <= N; i++) {

            System.out.println(i + " x " + M + " = " + (i \* M));

        }

    }

}

11..Write a program to read the numbers until -1 is encountered. Find the

average of positive numbers and negative numbers entered by user.

import java.util.Scanner;

public class pp {

    public static void main(String[] arg)

    {

    Scanner input=new Scanner(System.in);

    double es=0,os=0;

    int i=0,j=0;

    while(true)

    {

        int n=input.nextInt();

    if(n==-1)

        break;

    if(n>0)

    {

        i++;

        es+=n;

    }

    else

    {

        j++;

        os+=n;

    }

    }

    double eavg=es/i;

    double oavg=os/j;

    System.out.println("the avg of positive is:"+eavg);

    System.out.println("the avg of negitive is:"+oavg);

}

}

12.Write a program to read a character until a **\*** is encountered. Also count the

number of uppercase, lowercase, and numbers entered by the users.

import java.util.Scanner;

public class CharacterCount {

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);

        System.out.println("Enter \* to exit....");

        char c = '0';

        int lower = 0, upper = 0, digit = 0;

        while (c != '\*') {

            c = input.next().charAt(0);

            if (c >= 'A' && c <= 'Z') {

                upper++;

            } else if (c >= 'a' && c <= 'z') {

                lower++;

            } else if (c >= '0' && c <= '9') {

                digit++;

            }

        }

        System.out.println("Lowercase: " + lower);

        System.out.println("Uppercase: " + upper);

        System.out.println("Digits: " + digit);

    }

}

13.Write a program to calculate the factorial of number using recursive

function.

iimport java.util.Scanner;

public class FactorialCalculator {

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);

        System.out.print("Enter a number to calculate its factorial: ");

        int n = input.nextInt();

        int fact = 1;

        for (int i = 1; i <= n; i++) {

            fact \*= i;

        }

        System.out.println("The factorial of " + n + " is: " + fact);

    }

}

14..Write a Program to Find the Nth Largest Number in a array.

import java.util.Arrays;

import java.util.Scanner;

public class LargestNthElement {

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);

        int a[] = {14, 67, 48, 23, 5, 62};

        int len = a.length;

        Arrays.sort(a);

        int N = 4;

        System.out.println(N + " Largest number: " + a[len - N]);

    }

}

1. Write a program to convert the Binary to Decimal, Octal

import java.util.Scanner;

public class BinaryToOctalConverter {

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);

        System.out.print("Enter a binary number: ");

        String bin = input.nextLine();

        int dec = Integer.parseInt(bin, 2);

        System.out.println("Decimal: " + dec);

        String oct = Integer.toOctalString(dec);

        System.out.println("Octal: " + oct);

    }

}

16.Write a program to find the number of special characters in the given

statement

public class SpecialCharacterCount {

    public static void main(String[] args) {

        String s = "Modi Birthday @ September 17, #&$% is the wishes code for him.";

        int specialCharCount = 0;

        for (int i = 0; i < s.length(); i++) {

            char ch = s.charAt(i);

            if (!(Character.isLetterOrDigit(ch) || Character.isWhitespace(ch))) {

                specialCharCount++;

            }

        }

        System.out.println("Given s: " + s);

        System.out.println("Number of special characters: " + specialCharCount);

    }

}

17.Write a Program to Remove the Duplicate Items from a array.

import java.util.Scanner;

public class sai

{

    public static void main(String[] args)

    {

        Scanner input=new Scanner(System.in);

        int arr[]={1,1,2,4,5,6,3,7,9,1};

        int n=10,i,j;

        for(i=0;i<n;i++)

        {

            int count=1;

            if(arr[i]==-1)

            continue;

            for(j=i+1;j<n;j++)

            {

                if(arr[i]==arr[j])

                {

                    count++;

                    arr[j]=-1;

                }

            }

            System.out.println(arr[i]);

        }

    }

}

18.Bank is a class that provides method to get the rate of interest. But, rate of interest

may differ according to banks. For example, SBI, ICICI and AXIS banks are

providing 8.4%, 7.3% and 9.7% rate of interest. Write a Java program for above

scenario.

Sample Inp

import java.util.Scanner;

public class bank

{

 float getROI()

 {

 return 0;

 }

}

class SBI

{

 public float getROI()

 {

 return 8.4f;

 }

}

class ICICI extends bank

{

 public float getROI()

 {

 return 7.3f;

 }

}

class AXIS extends bank

{

 public float getROI()

 {

 return 9.7f;

 }

}

public class R192210191

{

 public static void main(String[] args) {

 SBI bank=new SBI();

   ICICI bb=new ICICI();

   AXIS bbb=new AXIS();

 System.out.println("SBI, " + bank.getROI());

   System.out.println("ICICI, " + bb.getROI());

   System.out.println("AXIS, " + bbb.getROI());

 }

}

19.Bring out the situation in which member names of a subclass hide members by the same

name in the super class. How it can be resolved? Write Suitable code in Java and

Implement above scenario with the Parametrized Constructor (accept int type

parameter) of the Super Class can be called from Sub Class Using super () and display

the input values provided.

import java.util.Scanner;

class Abc {

    Abc(int x, int y) {

        System.out.print(x + "," + y);

    }

}

public class Ak extends Abc {

    Ak(int x, int y) {

        super(x, y);

    }

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);

        System.out.print("Enter first number: ");

        int a1 = input.nextInt();

        System.out.print("Enter second number: ");

        int b1 = input.nextInt();

        Ak obj = new Ak(a1, b1);

    }

}

20.Display Multiplication table for 5 and 10 using various stages of life cycle of the

thread by generating a suitable code in Java.

import java.util.Scanner;

class a extends Thread

{

    public void run()

    {

        int n=5;

        for(int i=0;i<=n;i++)

        {

            System.out.println(n+"\*"+i+"="+n\*i);

        }

    }

}

class b extends Thread

{

    public void run()

    {

    int n=6;

    for(int i=0;i<=10;i++)

    {

    System.out.println(n+"\*"+i+"="+n\*i);

    }

}

}

public class practice

{

    public static void main(String[] arg)

    {

        a obj=new a();

        obj.run();

        b obj1=new b();

        obj1.run();

    }

}

21.Using the concepts of thread with implementing Runnable interface in Java to

generate Fibonacci series.

package saijava;

class a implements Runnable

{

    public void run()

    {

        int n=6;

        int a=0;int b=1;

        System.out.print(a+" "+b+" ");

        for(int i=2;i<n;i++)

        {

            int t=a+b;

            a=b;

            b=t;

            System.out.print(t+" ");

        }

    }

}

public class java

{

    public static void main(String[] arg)

    {

        a obj=new a();

        Thread thread=new Thread(obj);

        thread.start();

    }

}

22.. Generate a Java code to find the sum of N numbers using array and throw

ArrayIndexOutOfBoundsException when the loop variable beyond the size N.

import java.util.Scanner;

public class java

{

    public static void main(String[] arg)

    {

    Scanner input=new Scanner(System.in);

    int n=input.nextInt();

    int sum=0;

    int arr[]=new int[n];

    for(int i=0;i<n;i++) {

        arr[i]=input.nextInt();

    }

    try

    {

        for(int i=0;i<n;i++)

        {

            sum+=arr[i];

        }

    }

    catch(ArrayIndexOutOfBoundsException e)

    {

    System.out.println("invalid entries");

    }

    System.out.print("sum of array elements is:"+sum);

    }

}

23.Using the concepts of thread with implementing Runnable interface in Java to find

whether a given number is prime or not.

import java.util.Scanner;

class a implements Runnable

{

    public void run()

    {

        Scanner input=new Scanner(System.in);

        int n=input.nextInt();

        int count=0;

        for(int i=1;i<=n;i++)

        {

            if(n%i==0)

            {

                count++;

            }

        }

        if(count==2)

        {

            System.out.println("prime number");

        }

        else

            System.out.println("not a prime");

    }

}

public class java

{

    public static void main(String[] arg)

    {

        a obj=new a();

        Thread thread=new Thread(obj);

        thread.start();

    }

}

24.**Given a string s consisting of words and spaces, return the length of the** last **word**

***in the string.* A** word **is a maximal substring consisting of non-space characters only.**

**There will be at least one word, consists of only English letters and spaces ' '.**

import java.util.Scanner;

public class java

{

    public static void main(String[] arg)

    {

        Scanner input=new Scanner(System.in);

        String s=input.nextLine();

        String w[]=s.split(" ");

        int len=w[w.length-1].length();

        System.out.println("length is:"+len);

    }

}