Java Assignment 4

Q1)

import java.io.\*;

class Check

{

public static void main(String args[]) throws IOException

{

char ch;

BufferedReader inputstream=new BufferedReader(new InputStreamReader(System.in));

System.out.println("Enter Any Character:-");

ch=(char) inputstream.read();

if(Character.isDigit(ch))

System.out.println("Entered Character is Digit");

else if(Character.isUpperCase(ch))

{

System.out.println("Entered Character is Upper case");

System.out.println("Lower Case Character is:-"+Character.toLowerCase(ch));

}

else if(Character.isLowerCase(ch))

{

System.out.println("Entered Character is Lower Case");

System.out.println("Upper Case Character is:-"+Character.toUpperCase(ch));

}

else

System.out.println("Entered Character is special char");

}

}

Output:

Enter Any Character:-

K

Entered Character is Upper case

Lower Case Character is:-k

Q2)

import java.io.\*;

class ArrayDemo

{

public static void main(String args[]) throws IOException

{

int j,s,i,k=0,m=0,n;

int r[]=new int[10];

int prime[]=new int[10];

int perfect[]=new int[10];

BufferedReader br=new BufferedReader(new InputStreamReader(System.in));

System.out.println("Enter the Number of Elements:=>");

n=Integer.parseInt(br.readLine());

for(i=0;i<n;i++)

{

System.out.println("Enter the "+i+" Number of the Array:=>");

r[i]=Integer.parseInt(br.readLine());

}

for(j=0;j<10;j++)

{

int flag=0;

if(r[j]==0||r[j]==1)

{

continue;

}

else

{

for(i=2;i<r[j];i++)

{

if(r[j]%i==0)

flag=1;

}

}

if(flag==0)

{

prime[k]=r[j];

k++;

}

s=0;

for(i=1;i<r[j];i++)

{

n=r[j]%i;

if(n==0)

s=s+i;

}

if(s==r[j])

{

perfect[m]=r[j];

m++;

}

}

System.out.println("\nPerfect Numbers are");

for(i=0;i<m;i++)

{

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

}

System.out.println("\nPrime Numbers are");

for(i=0;i<k;i++)

{

System.out.print(prime[i]+" ");

}

}

}

Output:

Enter the Number of Elements:=>

4

Enter the 0 Number of the Array:=>

2

Enter the 1 Number of the Array:=>

3

Enter the 2 Number of the Array:=>

6

Enter the 3 Number of the Array:=>

7

Perfect Numbers are

6

Prime Numbers are

2 3 7

Q3)

import java.io.\*;

class CitySort

{

public static void main(String args[]) throws IOException

{

int n,len,len1,c,i,j,k=0,m=0;

String str[]=new String[5];

String s1;

String s2,temp;

BufferedReader br=new BufferedReader(new InputStreamReader(System.in));

for(i=0;i<5;i++)

{

System.out.println("Enter the string "+i+" of the array:");

str[i]=br.readLine();

}

System.out.println("\nSorted Strings are:");

for(i=0;i<5;i++)

{

for(j=i+1;j<5;j++)

{

if(str[j].compareTo(str[i])<0)

{

temp=str[i];

str[i]=str[j];

str[j]=temp;

}

}

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

}

}

}

Output:

Enter the string 0 of the array:

2

Enter the string 1 of the array:

3

Enter the string 2 of the array:

6

Enter the string 3 of the array:

9

Enter the string 4 of the array:

1

Sorted Strings are:

1

2

3

6

9

Q6)

import java.io.\*;

class SumInt

{

public static void main(String args[])throws IOException

{

long sum=0;

String i="";

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

System.out.println("Enter Line of Integer");

long str=Long.parseLong(br.readLine());

while(str>0)

{

i=i+""+str%10;

sum=sum+str%10;

str=str/10;

}

System.out.println("All integer Digits :->" );

for(int k=i.length()-1;k>=0;k--)

{

System.out.println(i.charAt(k));

}

System.out.println("Summation of all integer Digits :-> "+sum);

}

}

Output:

Enter Line of Integer

12345

All integer Digits :->

1

2

3

4

5

Summation of all integer Digits :-> 15

Q8)

import java.io.\*;

class Mathematics

{

float a,b,c;

int p,q;

BufferedReader br=new BufferedReader(new InputStreamReader(System.in));

public int add\_i()

{

try

{

System.out.println("Enter two integers");

p=Integer.parseInt(br.readLine());

q=Integer.parseInt(br.readLine());

}

catch(Exception ex){}

return (p+q);

}

public float add\_f()

{

try

{

System.out.println("Enter three floats");

a=Float.parseFloat(br.readLine());

b=Float.parseFloat(br.readLine());

c=Float.parseFloat(br.readLine());

}

catch(Exception ex1){}

return ( a+b+c);

}

}

class Maximum

{

int x,y,z,max;

BufferedReader br=new BufferedReader(new InputStreamReader(System.in));

public int check\_max()

{

try

{

System.out.println("Enter three integers");

x=Integer.parseInt(br.readLine());

y=Integer.parseInt(br.readLine());

z=Integer.parseInt(br.readLine());

if(x>y&&x>z)

max=x;

else if(y>z)

max=y;

else

max=z;

}

catch(Exception ex3){}

return max;

}

}

class Test

{

public static void main(String args[])

{

Mathematics m=new Mathematics();

System.out.println("Addition of two integers is "+m.add\_i());

System.out.println("Addition of three floats is "+m.add\_f());

Maximum m1=new Maximum();

System.out.println("Maximum amongst three integers is "+m1.check\_max());

}

}

Output:

Enter two integers

3

4

Addition of two integers is 7

Enter three floats

13.3

4.5

5.5

Addition of three floats is 23.3

Enter three integers

2

3

5

Maximum amongst three integers is 5

Q16)

class JavaExample {

static void countEachChar(String str)

{

int counter[] = new int[256];

int len = str.length();

for (int i = 0; i < len; i++)

counter[str.charAt(i)]++;

char array[] = new char[str.length()];

for (int i = 0; i < len; i++) {

array[i] = str.charAt(i);

int flag = 0;

for (int j = 0; j <= i; j++) {

if (str.charAt(i) == array[j])

flag++;

}

if (flag == 1)

System.out.println("Occurrence of char " + str.charAt(i)

+ " in the String is:" + counter[str.charAt(i)]);

}

}

public static void main(String[] args)

{

String str = "kausain";

countEachChar(str);

}

}

Output:

Occurrence of char k in the String is:1

Occurrence of char a in the String is:2

Occurrence of char u in the String is:1

Occurrence of char s in the String is:1

Occurrence of char i in the String is:1

Occurrence of char n in the String is:1

Q17)

import java.io.\*;

import java.util.\*;

class Alphabetic

{

String alphaOrder(String str)

{

char[] charArray=str.toCharArray();

Arrays.sort(charArray);

String aString=new String(charArray);

return aString;

}

public static void main(String[] args)throws IOException

{

System.out.println("Enter the String->");

BufferedReader br=new BufferedReader(new

InputStreamReader(System.in));

String inputString=br.readLine();

Alphabetic obj=new Alphabetic();

String alphaString=obj.alphaOrder(inputString);

System.out.println("String in the Alphabetic Order :" +alphaString);

}

}

Output:

Enter the String->

kausain

String in the Alphabetic Order :aaiknsu

Q19)

import java.util.Scanner;

class Grade extends Student

{

boolean isPassed(double grade) {

if(grade>80)

return true;

else

return false;

}

}

public class Program19 {

public static void main(String[] args) {

Scanner scan=new Scanner(System.in);

Grade g=new Grade();

System.out.println("=========Grade===========");

System.out.println("Enter id, name, city, age :-");

g.setData(scan.nextInt(), scan.next(), scan.next(), scan.nextInt());System.out.println("Enter Grade :-");

if((g.isPassed(scan.nextDouble()))==true)

System.out.println("You passed the exam.");

else

System.out.println("You have not passed the exam.");

UnderGrade ug=new UnderGrade();

System.out.println("===========Undergrade============");

System.out.println("Enter id, name, city, age :-");

ug.setData(scan.nextInt(), scan.next(), scan.next(), scan.nextInt());

System.out.println("Enter Grade :-");

if((ug.isPassed(scan.nextDouble()))==true)

System.out.println("You passed the exam.");

else

System.out.println("You have not passed the exam.");

}

}

abstract class Student

{

private String name,address;

private double grade;

private int id,age;

void setData(int id,String name,String address,int age){

this.id=id;

this.name=name;

this.age=age;

this.address=address;

}

abstract boolean isPassed(double grade);

}

class UnderGrade extends Student

{

boolean isPassed(double grade) {

if(grade>70)

return true;

else

return false;

}

}

Output:

Enter id, name, city, age :-

101

kausain

pune

21

Enter Grade :-

70

You have not passed the exam.

===========Undergrade============

Enter id, name, city, age :-

102

shifu

mumbai

22

Enter Grade :-

80

You passed the exam.