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| R.Sana Faheema 12 Science Roll no. 40 |

**COMPUTER PROJECT**

**QUESTION 1**

import java.io.\*;

class telcall

{

int phno=0,n=0; double amt=0; String name=" ";

telcall(int x, String y, int k)

{

phno=x;

n=k;

name=y;

}

void compute() throws IOException

{

if((n>=1)&&(n<=100))

amt=500;

else

if(n<=200)

amt=1\*(n-100)+500;

else

if(n<=300)

amt=1.2\*(n-200)+1\*(100)+500;

else

amt=1.5\*(n-300)+1.2\*(100)+1\*(100)+500;

}//end of compute

void display()throws IOException

{

System.out.println("Phone Number Name Total calls Amount");

System.out.println(phno+" "+name+" "+n+" "+amt);

}//end of display

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

{

System.out.println("Please enter your phone number, name and number of calls made.");

InputStreamReader read=new InputStreamReader(System.in);

BufferedReader in=new BufferedReader(read);

int phno1=Integer.parseInt(in.readLine());

String name1= in.readLine();

int n1=Integer.parseInt(br.readLine());

telcall ob=new telcall(phno1,name1,n1);

ob.compute();

ob.display();

}//end of main

}//end of class

**OUTPUT:**

Please enter your phone number, name and number of calls made.

9654235885

Sana

180

Phone Number Name Total calls Amount

9654235885 Sana 180 580.0

**QUESTION 2**

import java.util.\*;

import java.io.\*;

class string12

{

String str, rev;

string12()

{

str="";

rev="";

}

void inputstring()throws IOException

{

InputStreamReader read=new InputStreamReader(System.in);

BufferedReader in=new BufferedReader(read);

System.out.println("Input String");

str=in.readLine();

}

void getprocess()throws IOException

{

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

{

char ch=str.charAt(i);

rev=rev+ch;

}

System.out.println("String="+str);

System.out.println("Reverse="+rev);

}

void findvalue()

{

StringTokenizer obj=new StringTokenizer(str);

System.out.println("words ="+obj.countTokens());

System.out.println("spaces ="+(obj.countTokens()-1));

}

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

{

string12 ob=new string12();

ob.inputstring();

ob.getprocess();

ob.findvalue();

}

}

**OUTPUT:**

Input String

Computer is Fun

String=Computer is Fun

Reverse=nuF si retupmoC

words =3

spaces =2

**QUESTION 3**

import java.io.\*;

class employee

{

String empname;int empcode; double basicpay;

employee()

{

empname="";

empcode=0;

basicpay=0;

}

employee(String n, int p, double q)

{

empname=n;

empcode=p;

basicpay=q;

}

double salarycal()throws IOException

{ double ts=0;

double salary=basicpay+0.3\*basicpay+0.4\*basicpay;

if(empcode<=15)

{

if(salary<=15000)

{ if((0.2\*salary)<=2500)

ts=salary+0.2\*salary;

else

ts=salary;

}

else

ts=salary;

}

if(empcode>15)

{

ts=salary+1000;

}

else

ts=salary;

return ts;

}

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

{

System.out.println("Please enter your name, code and basic pay");

InputStreamReader read=new InputStreamReader(System.in);

BufferedReader in=new BufferedReader(read);

String empname1= in.readLine();

int empcode1=Integer.parseInt(in.readLine());

double n1=Double.parseDouble(in.readLine());

employee ob=new employee();

employee ob1=new employee(empname1,empcode1,n1);

System.out.println("Total Salary= "+ob1.salarycal());

}

}

**OUTPUT:**

Please enter your name, code and basic pay

Sana

16

200000

Total Salary= 341000.0

**QUESTION 4**

import java.io.\*;

class rearrange

{

String txt, cxt; int len;

rearrange()

{

txt="";

cxt="";

len=0;

}

void readword()throws IOException

{

InputStreamReader read =new InputStreamReader(System.in);

BufferedReader in=new BufferedReader(read);

System.out.println("Please enter the word in UPPER CASE");

txt= in.readLine();

}

void convert()throws IOException

{

len= txt.length();

int i; char c; boolean flag = false; String S,S1;

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

{

c= txt.charAt(i);

if((c=='A')||(c=='E')||(c=='I')||(c=='O')||(c=='U'))

{

flag = true;

if(i==0)

{

cxt = txt + "Y";

break;

}

else

{

S=txt.substring(0,i);

S1 = txt.substring(i);

cxt = S1+S+"C";

break;

}

}

}

if(flag==false)

cxt=txt+"N";

}

void display()

{

System.out.println("Original text = "+txt);

System.out.println("Changedtext = "+cxt);

}

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

{

rearrange ob=new rearrange();

ob.readword();

ob.convert();

ob.display();

}

}

**OUTPUT:**

Please enter the word in UPPER CASE

FLOWER

Original text = FLOWER

Changedtext = OWERFLC

**QUESTION 5**

import java.io.\*;

class magic

{

long num[]=new long[150];

int n;

magic()

{

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

{

num[i]=0;

}

}

magic(int nx)

{

n=nx;

}

void input\_numbers()throws IOException

{

InputStreamReader read=new InputStreamReader(System.in);

BufferedReader in=new BufferedReader(read);

System.out.println("Enter the number");

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

{

num[i]=Integer.parseInt(in.readLine());

}

}

void find\_print\_magic()throws IOException

{

System.out.println("The magic numbers are:");

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

{

long x=0;long sum=0;long sum2=0;

long m=num[i];int c=2;

while(c>1)

{

sum=0;

c=0;

while(m!=0)

{

x=m%10;

m=m/10;

sum=sum+x;

}

sum2=sum;

while(sum2!=0)

{

c++;

sum2=sum2/10;

}

m=sum;

}

if(sum==1)

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

}

}

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

{

InputStreamReader read=new InputStreamReader(System.in);

BufferedReader in=new BufferedReader(read);

System.out.println("Enter the size of the array");

int n2=Integer.parseInt(in.readLine());

magic ob=new magic();

magic ob1=new magic(n2);

ob1.input\_numbers();

ob1.find\_print\_magic();

}

}

**OUTPUT:**

Enter the size of the array

5

Enter the number

289

63

4

57

123

The magic numbers are:

289

**QUESTION 6**

import java.io.\*;

class prim\_factors

{

int num[]=new int[200];

int size;

prim\_factors()

{

for(int i=0;i<200;i++)

{

num[i]=0;

}

}

void readsize(int nx)throws IOException

{

size=nx;

}

void get\_numbers()throws IOException

{

InputStreamReader read=new InputStreamReader(System.in);

BufferedReader in=new BufferedReader(read);

System.out.println("Please enter the numbers");

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

{

num[i]=Integer.parseInt(in.readLine());

}

}

void show\_primeFact()throws IOException

{

int j,c,p;

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

{

System.out.print("Input= "+num[i]+'\t'+"Output= ");

p=num[i];

j=2;

while(p>1)

{

if(p%j==0)

{

c=0;

for(int k=1;k<=j;k++)

{

if(j%k==0)

c++;

}

if(c==2)

{

p=p/j;

if(p<=1)

System.out.print(j);

else

System.out.print(j+"\*");

j--;

}

}

j++;

}

System.out.println();

}

}

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

{

InputStreamReader read=new InputStreamReader(System.in);

BufferedReader in=new BufferedReader(read);

System.out.println("Enter the size of the array.");

int n2=Integer.parseInt(in.readLine());

prim\_factors ob=new prim\_factors();

ob.readsize(n2);

ob.get\_numbers();

ob.show\_primeFact();

}

}

**OUTPUT:**

Enter the size of the array.

4

Please enter the numbers

2

36

78

13

Input= 2 Output= 2

Input= 36 Output= 2\*2\*3\*3

Input= 78 Output= 2\*3\*13

Input= 13 Output= 13

**QUESTION 7**

import java.io.\*;

class myarray

{

int arr[]=new int[200];

int n;

myarray()

{

for(int i=0;i<200;i++)

{

arr[i]=0;

}

}

void readarray()throws IOException

{

InputStreamReader read=new InputStreamReader(System.in);

BufferedReader in=new BufferedReader(read);

System.out.println("Enter the size of the array.");

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

System.out.println("Please enter the numbers.");

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

{

arr[i]=Integer.parseInt(in.readLine());

}

}

void BubSort()throws IOException

{

int temp;

for(int i=0;i<(n-1);i++)

{

for(int j=0;j<(n-1)-i;j++)

{

if(arr[j]>arr[j+1])

{

temp=arr[j];

arr[j]=arr[j+1];

arr[j+1]=temp;

}

}

}

}

void displayarray()throws IOException

{

System.out.println("the elements of the sorted array are:");

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

{

if(i<n-1)

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

else

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

}

System.out.println();

}

int binarysearch(int value)throws IOException

{

int start=0, mid=0, end=(n-1),k=0,sub=0;

while(start<=end)

{

mid=(start+end)/2;

if(arr[mid]<value)

start=mid+1;

if(arr[mid]>value)

end=mid-1;

if(arr[mid]==value)

{

k++;

sub=mid;

break;

}

}

if(k==1)

return sub;

else

{

sub=-999;

return sub;

}

}

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

{

InputStreamReader read=new InputStreamReader(System.in);

BufferedReader in=new BufferedReader(read);

myarray ob=new myarray();

ob.readarray();

ob.BubSort();

ob.displayarray();

System.out.println("Enter the number to be found");

int v1=Integer.parseInt(in.readLine());

System.out.println("The subscript= "+ob.binarysearch(v1));

}

}

**OUTPUT**

Enter the size of the array.

4

Please enter the numbers.

56

34

89

12

the elements of the sorted array are:

12,34,56,89

Enter the number to be found

34

The subscript= 1

**QUESTION 8**

import java.io.\*;

class sum\_matrix

{

static int mat[][]=new int[50][50];

static int m,n;

sum\_matrix()

{

for(int i=0;i<50;i++)

{

for(int j=0;j<50;j++)

{

mat[i][j]=0;

}

}

}

void read\_row\_column(int x,int y)

{

m=x;

n=y;

}

void readmatrix()throws IOException

{

InputStreamReader read=new InputStreamReader(System.in);

BufferedReader in=new BufferedReader(read);

System.out.println("Please enter the numbers");

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

{

for(int j=0;j<n;j++)

{

mat[i][j]=Integer.parseInt(in.readLine());

}

}

}

void show\_mat()throws IOException

{

System.out.println("The elements of the matrix are:");

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

{

for(int j=0;j<n;j++)

{

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

}

System.out.println();

}

}

void summatrix()throws IOException

{

int c,r;

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

{

r=0;

for(int j=0;j<n;j++)

{

r=r+mat[i][j];

}

mat[i][n]=r;

}

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

{

c=0;

for(int j=0;j<m;j++)

{

c=c+mat[j][i];

}

mat[m][i]=c;

}

System.out.println("The elements of the output matrix are:");

for(int i=0;i<m+1;i++)

{

for(int j=0;j<n+1;j++)

{

if((i==m)&&(j==n))

System.out.println();

else

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

}

System.out.println();

}

}

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

{

InputStreamReader read=new InputStreamReader(System.in);

BufferedReader in=new BufferedReader(read);

System.out.println("Please enter the size of the array");

m=Integer.parseInt(in.readLine());

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

sum\_matrix ob=new sum\_matrix();

ob.read\_row\_column(m,n);

ob.readmatrix();

ob.show\_mat();

ob.summatrix();

}

}

**OUTPUT**

Please enter the size of the array

3

3

Please enter the numbers

13

21

54

12

45

35

13

47

69

The elements of the matrix are:

13 21 54

12 45 35

13 47 69

The elements of the output matrix are:

13 21 54 88

12 45 35 92

13 47 69 129

38 113 158