# Q1. Read an Employee data with idno, name and mobilenumber (regular expression) and compare the mobile number must have only 10 digits name can consists of only alphabets , space character idno number consists of 5 digits

**package** Lab4;

**import** java.util.\*;

**import** java.util.regex.\*;

**public class** Regular\_Exp {

**public static void** main(String[] args) {

// TO READ THE INPUT FROM SYSTEM

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter Name consists of 5 charecters");

System.***out***.println("Enter ID number"); String id= sc.next();

System.***out***.println("Enter Name"); String name= sc.next();

System.***out***.println("Enter 10 digit Mobile number");

String mobile= sc.next();

**if**(Pattern.*matches*("\\d\\d\\d\\d\\d\\d\\d\\d\\d\\ d", mobile))

System.***out***.println("valid mobile number");

## else

System.***out***.println("Invalid mobile number");

}

}

## Output:

Enter Name consists of 5 charecters Enter ID number

12345

Enter Name Anuuu

Enter 10 digit Mobile number 9123456789

valid mobile number

## (or)

Enter Name consists of 5 charecters Enter ID number

12345

Enter Name Mercy

Enter 10 digit Mobile number 6303945351

Invalid mobile number

# Q2. Write a mutithreading program, thread 1 : to display all perfect numbers,

**thread 2 : to display factorial value of numbers from 1 to 10.**

**package** Lab4;

**public class** MultiThread4 {

**public static void** main(String[] args) { First4 o1 = **new** First4(); Second4 o2 = **new** Second4();

Thread t1 = **new** Thread(o1); Thread t2 = **new** Thread(o2);

t1.start();

t2.start();

System.***out***.println("End of Main");

}

}

## //thread 1 : to display all perfect numbers

**package** Lab4;

**import** java.util.Scanner;

**public class** First4 **implements** Runnable {

**public void** run()

{

**for**(**int** i=1;i<=10000;i++)

{

**int** n=i;

**int** sum=0,factor=1;

**while**(factor<n)

{

**if**((n%factor)==0)

{

sum=sum+factor;

}

factor++;

}

**if**(sum==i)

{

System.***out***.println("perfect number is: "); System.***out***.println(i+" ");

## try

{

Thread.*sleep*(1000);

}

**catch**(Exception e)

{

System.***out***.println(e);

}

}

}

}

}

## //thread 2 : to display factorial value of numbers from 1 to 10

**package** Lab4;

**import** java.util.Scanner;

**public class** Second4 **implements** Runnable{

**public void** run() {

Scanner obj = **new** Scanner(System.***in***);

**int** n;

**long** fact=1;

**long** sum=0;

System.***out***.println("The Factorials are:");

**for**(**int** i=1;i<=10;i++)

{

fact=1;

**for**(**int** j=1;j<=i;j++)

{

}

}

## try

{

fact=fact\*j;

sum=sum+fact; System.***out***.println(fact+" ! ");

Thread.*sleep*(2000);

}

**catch**(Exception e)

{

System.***out***.println(e);

}

}

}

## Output:

End of Main perfect number is: 6

The Factorials are: 1 !

2 !

6 !

24 !

120 ! 720 ! 5040 ! 40320 ! 362880 ! 3628800 !

perfect number is: 28

perfect number is: 496

perfect number is: 8128

# Q3. Write a program to read the data from file.

**package** Lab4;

**import** java.io.\*;

**public class** ReadData\_File {

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

IOException

{

FileReader fr=**new** FileReader("d:\\test.txt"); BufferedReader br=**new** BufferedReader(fr);

String str=**null**;

## while(true)

{

## try

{

}

str=br.readLine(); // read from file

**if**(str.equals(**null**)) **break**;

System.***out***.println(str);

**catch**(NullPointerException e)

{

## break;

}

}

br.close();

fr.close();

}

}

## Output:

Mercy Nandu

Teja

Anusha

Deepthi Sadhu

Teja

Anusha Deepthi

Nandu

Mercy

**Q4. write a program to write the content to file in append mode.**

**package** Lab4;

**import** java.io.\*;

**public class** Input {

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

IOException

{

DataInputStream dis = **new**

DataInputStream(System.***in***);

FileWriter fw = **new**

FileWriter("d:\\Test.txt",**true**); BufferedWriter br=**new** BufferedWriter(fw);

String str=**null**; **int** size; **while**( **true** )

{

System.***out***.println("Enter file input"); str=dis.~~readLine~~(); //read from keyboard **if**(str.equals("null"))

**break**; size=str.length();

br.write(str,0,size); //write to file br.write("\n");

}

br.close();

fw.close();

}

}

## Output:

Enter file input Append mode Enter file input anusha

Enter file input

deepthi

Enter file input sujii

Enter file input null

