1. 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 jeevan;
import java.util.*;
import java.util.regex.*;

public class Regular_expression
{
      public static void main(String[] args) {

                  Scanner sc = new Scanner(System.in);
                  System.out.println("Enter ID number");
                  String name=sc.next();
                  System.out.println("Enter Name");
                  String id= 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 ID number
1
Enter Name
jeevan
Enter 10 digit Mobile number
9963496927
valid mobile number
```

2. Write a mutithreading program,

thread 1 : to display all perfect numbers,

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

```
package jeevan;
```

```
import java.lang.*;
import java.util.Scanner;

public class Thread1 extends Thread  {


            public void run1(){
                  Scanner sc=new Scanner(System.in);
                  int sum=0;
                  long a;
                  System.out.println(" enter a number");
              a=sc.nextInt();
              for(int i=1;i<a;i++) {
                  if(a%i==0) {
                   sum=sum+i;
                  }
              }if(sum==a) {
                  System.out.println("perfect number");
              }else {
                  System.out.println(" not a perfect number");
              }
            }
}



package jeevan;
import java.lang.*;
import java.util.Scanner;
public class Thread2 extends Thread {
      public void run()
      {
      Scanner obj = new Scanner(System.in);
      long num, i, fact=1;
      System.out.println("Enter an integer to find factorial ");
      num= obj.nextLong();
      for(i=1;i<=num;i++)
            fact*=i;
            System.out.println(num+"!= "+fact);
      }
}



package jeevan;

public class Threadimplement {
      public static void main(String[] args) {
            System.out.println("Starting");
            Thread1 j1 = new Thread1();
            Thread2 j2 = new Thread2();
            j1.run1();
            j2.run();
            System.out.println("ending");
```

```
}

}
OUTPUT:
Starting
 enter a number
6
perfect number
Enter an integer to find factorial
7
7!= 5040
ending
```

3. Write a program to read the data from file.

```
package jeevan;
import java.io.*;


public class File_Read {


public static void main(String[] sun) throws IOException
{
FileReader f=new FileReader("D:\\java\\jeevan.txt");
BufferedReader b=new BufferedReader(f);
String str=null;
while( true )
{ try
{ str=b.readLine();
if(str.equals(null))
break;
System.out.println(str);
}
catch(NullPointerException e)
{ break; }
}
b.close();
f.close();
}

}
OUTPUT:
HI JEEVAN
```

4. write a program to write the content to file in append mode.

```
package jeevan;
import java.io.*;
public class File_writer {
public static void main(String[] args) throws IOException{
DataInputStream dis = new DataInputStream(System.in);
```

```
FileWriter fw = new FileWriter("D:\\java\\jee.txt");
BufferedWriter br=new BufferedWriter(fw);
String str=null;
int size;
while( true )
{
str=dis.readLine();
if(str.equals("null"))
break;
size=str.length();
br.write(str,0,size);
br.write("\n");
}
br.close();
fw.close();
}
}
```

OUTPUT:

```
Hi jeevan
How are you
```