

# R. Anusha

**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
Anusha
Enter 10 digit Mobile number
91234567891
Invalid mobile number
```

**Q2. Write a multithreading 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++)
        {
            fact=fact*j;
        }
        sum=sum+fact;
        System.out.println(fact+" ! ");
    }

    try
    {
        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:

```
anusha
sujatha
deepthi
```

mercy

geetha  
harshita  
sujatha  
appu  
Anusha  
deepthi  
mercy

The screenshot shows the Eclipse IDE with a project named 'AnuProject'. The main editor displays a Java file named 'ReadData\_File.java'. The code is as follows:

```
1 import java.io.*;
2 public class ReadData_File {
3
4
5     public static void main()
6     {
7         FileReader fr=new
8         FileReader("d:\\test
9         BufferedReader br=new
10        BufferedReader(fr);
11        String str=null;
12
13        while(true)
14        {
15            try
16            {
17                str=br.readL
18                if(str.equal
19                break;
20                System.out.p
21            }
22            catch (NullPointe
23            {
24                break;
25            }
26        }
27        br.close();
28        fr.close();
29
30    }
31
32 }
33
```

The 'test.txt' file is open in the editor, showing the following content:

```
anusha
sujatha
deepthi
mercy
geetha
harshita
sujatha
appu
Anusha
deepthi
mercy
```

The 'Problems' tab shows a message: '<terminated> ReadData\_File (1) [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (2)'. The status bar at the bottom indicates 'Ln 1, Col 1', '100%', 'Windows (CRLF)', and 'UTF-8'. The system tray shows the date and time as '01:15 PM 29-06-2023'.



**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
anussha
Enter file input
```

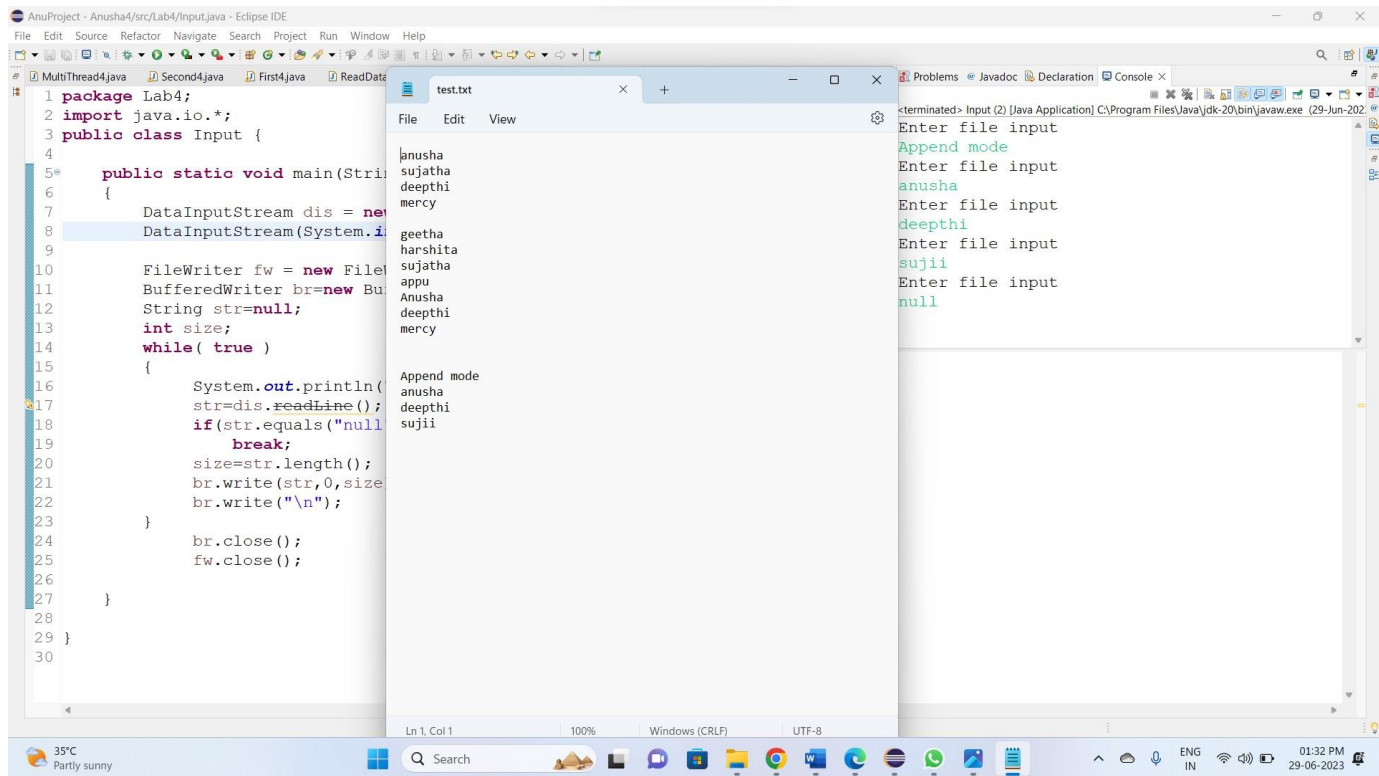
deepthi

Enter file input

sujii

Enter file input

null



```
1 package Lab4;
2 import java.io.*;
3 public class Input {
4
5     public static void main(String[] args) {
6         DataInputStream dis = new DataInputStream(System.in);
7         DataInputStream(System.in);
8         FileWriter fw = new FileWriter("test.txt");
9         BufferedWriter br = new BufferedWriter(fw);
10        String str = null;
11        int size;
12        while( true )
13        {
14            System.out.println("Enter file input");
15            str = dis.readLine();
16            if(str.equals("null"))
17                break;
18            size = str.length();
19            br.write(str, 0, size);
20            br.write("\n");
21        }
22        br.close();
23        fw.close();
24    }
25 }
26
27
28
29
30
```

test.txt

anusha  
sujatha  
deepthi  
mercy  
geetha  
harshita  
sujatha  
appu  
Anusha  
deepthi  
mercy  
Append mode  
anusha  
deepthi  
sujii

<terminated> Input (2) [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (29-Jun-2023)

Enter file input  
Append mode  
Enter file input  
anusha  
Enter file input  
deepthi  
Enter file input  
sujii  
Enter file input  
null

35°C Partly sunny 01:32 PM 29-06-2023