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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

Program:

```
package Likki;
import java.util.*;
import java.util.regex.*;
public class Employee {

	public static void main(String[] args) {
		String idno, name,mobile;
		Scanner obj=new Scanner(System.in);
		System.out.println("Enter idno");
		idno=obj.next();


		System.out.println("Enter your name");
		name=obj.next();
		System.out.println("Enter your 10 digit mobile number");
		mobile=obj.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 idno
3
Enter your name
Likhitha
Enter your 10 digit mobile number
8185051197
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.

Program:

```
package Likki;
import java.util.*;
public class Thread1 {

	public static void main(String[] args) {
		Scanner obj = new Scanner(System.in);
		long num,i,sum=0;
		System.out.println("Enter a number");
		num=obj.nextLong();
		for(i=1;i<num;i++)
		{
			if(num%i==0)
			{
				System.out.println(i);
				sum=sum+i;
			}
			System.out.println("sum="+sum);
			if(sum==num)
			System.out.println(num+"is prefect number");
		    else
		System.out.println(num+"is not a perfect number");
		}
	try {
		Thread.sleep(1000);
	}
	catch(Exception e) {
		System.out.println(e);

	}
	}


}
```

Output:

```
Enter a number
2
1
sum=1
2is not a perfect number
```

Program:

```
package Likki;
import java.util.Scanner;
public class Thread2 extends Thread1{

	public static void main(String[] args) {
		Scanner obj=new Scanner(System.in);
		long num,i,fact=1;
		System.out.println("Enter an factorial number");
		num=obj.nextLong();
		for (i= 1; i <= num; i++)
		fact *= i;
	   System.out.println(num+"!="+fact);
		}
	}
```

Output:

```
Enter an factorial number
3
3!=6
```

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

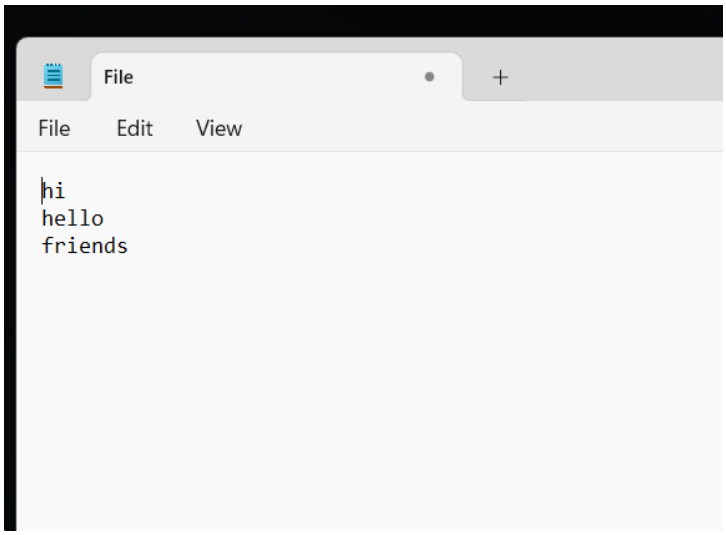
Program:

```
package Threads;
import java.io.*;
public class ReadFile {
	public static void main(String[] sun) throws IOException
	{
		FileReader fr=new
FileReader("C:\\Users\\LIKHITHA\\OneDrive\\Desktop\\File.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:

```
hi
hello
friends
```



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

Program:

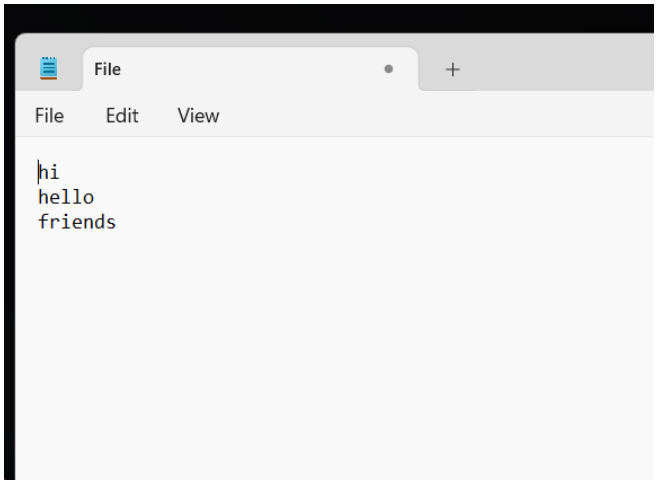
```
package Threads;
import java.io.*;

public class WriteData {
      public static void main(String[] args) throws IOException
      {
            DataInputStream dis = new
DataInputStream(System.in);


            //used to open the file for write

            //FileWriter fw = new FileWriter("filename and
path",append mode);
            FileWriter fw = new FileWriter("C:\\Users\\BHARGAVA
MANIKANTA\\OneDrive\\Desktop\\File.txt",true);
            //used to write data into file with the help of file
writer object
            BufferedWriter br=new BufferedWriter(fw);
```

```
            String str=null;
            int size;
            while( true )
            {
                  System.out.println("Enter file input");
                  str=dis.readLine();
                  if(str.equals("null"))
                        break;
                  size=str.length();
                  br.write(str,0,size); //write to file
                  br.write("\n");
            }


            br.close();
            fw.close();


      }


}
```

Input:

```
Enter file input
welcome
Enter file input
to
Enter file input
the
Enter file input
java
Enter file input
classes
Enter file input
Null
```

Before Execution:



After Execution: