Assignment - I

① Write program to find the factorial value of any number entered by the user. Using Javascript

input: The first line contains an integer. T, the total number of testcases Then T lines follow, each line contains an integer N.

output: For each test case, display the factorial of the given number N in a new line.

Constraints: $1 \leq T \leq 1000$

$0 \leq N \leq 20$

Example:

Input	output
3.	6
3	24
4	120
5	

Ans   Factorial of any Number

```
<! doctype html>
<html>
<head>
<script>
function show() {
    var i, n, fact;
    fact = 1;
```

```
n = Number(document.getElementById("num").value);
for (i=1; i<=n; i++)
{
  fact = fact * i;
}
document.getElementById("answer").value = fact;
}
</script>
</head>
<body>
Enter Num: <input id = "num">
<button onclick = "show()"> Factorial </button>
<input id = "answer">
</body>
</html>
```

output: Enter Num: [4] [Factorial] [24]

② In a company an employee is paid as under:
if his basic salary is less than RS. 1500, then
HRA = 10% of base salary and DA = 90% of basic
Salary. if his salary is either equal to or above
RS. 1500, then HRA = RS, 500 and DA = 98% of basic
Salary. if the employee's salary is input, write
a program to find his gross salary. Using Java-
Script Eventhandules.

NOTE: Gross Salary = Basic Salary + HRA + DA.

Input: The first line contains an integer, T,
total number of testcases. Then follow T lines
each line contains an integer salary.

<u>output</u>: For each test case, output the gross salary of the employee in a new line. Your answer will be considered correct if the absolute error is less than 10-2.

<u>constraints</u>: 1 ≤ T ≤ 1000
                1 ≤ Salary ≤ 100000

Input	output
3	2406.00
1203	20383.16
10042	2624
1312	

<u>Ans</u>

```
<html>
<head>
<title> Gross salary </title>
</head>
<body>
<script>
function show() {

    var n, ans;

    n = Number (document.getElementById["salary"]
                    .value);
    if (n < 1500) {

    ans = no + ((10/100) * n) + ((90/100) * n);

    }

    else {

    ans = n + 500 + ((98/100) * n);

    }
```

```
        document.getElementById ("ans").value = ans;
    }
    </script>
    Enter Salary: <input id = "salary">
    <button onclick = 'show()'> Gross salary </button>
    <label id = 'ans'> 0 </label>
    </body>
    </html>
```

output: Enter Salary: [1312] [Gross salary] [2624]

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③ Write a program to take a character (C) as input
and check whether the given character is a vowel
or a constant. Using java.

NOTE:- Vowels are 'A', 'E', 'I', 'O', 'U'. Rest all alpha
-bets are called consonants.

input: First line will contain the character C

Output: Print "Vowel" if the given character is a
        vowel, otherwise print "Consonant".

constraints: C will be upper case English alphabet

Sample Input.   Sample Output.

    Y   Consonant

    O   Vowel

Ans   class char {

            public static void main (string [] args) {

                Scanner sc = new Scanner (system.in);
```

```java
        char c = sc.next();
        if (c == "A" || c == "B" || c == "I" || c == 'o' ||
            c == "u") {
            System.out.println("vowel");
        } elseif (c == "a" || c == "e" || c == "i" || c == "o" ||
            c == "u") {
            System.out.println("vowel");
        } else {
            System.out.println("consonant");
        }
    }
}
```

output:

N	consonant
A	vowel

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(14) Describe in detail Multi threading concept. illustrate with the java code.

Ans   Multi threading in java allows concurrent execution of two or more parts of a program for maximum utilization of CPU. Each part of such program is called a thread. so, threads are light weight processes within a process

program:

```
class MultiThreadingDemo Extends Thread {
Public void run() {
    try {
        System.out.println ("Thread" + Thread.
            currentThread():getId() + ' is running");
    } catch (Exception e) {
        System.out.println ("Exception is caught");
    }
  }
}

Public class MultiThread {
    public static void main(string [] args){
        int n=4;
        for (int i=0; i<n; i++) {
            Multithreading Demo. Object= new Multithr.
                                -eading Demo ();
            object.start();
        }
    }
}
```

output: Thread .4 is running
        Thread 5 is running
        Thread 6 is running
        Thread 7 is running.

⑤ Connect to the database using any of the JDBC drivers, insert & display 2 records with Bus' ticket reservation information like Ticket No. (8 digit no.), Source, Destination, Date of Journey. Depart no, Arriva On (Time 24 Hr Clock), seat No., Name, Age.

Ans

```java
import java.sql.*;
public class Data {
    public static void main(String[] args) {
        Connection con = null;
        Statement st = null;
        try {
            Class.forName("com.mysql.jdbc.Driver");
            con = DriverManager.getConnection("jdbc:mysql
                : || localhost / bus", "root", "root");
            System.out.println("connection Established");
            st = con.createStatement();
            st.executeUpdate("Insert into booking
                values [131, "hyderabad", "chennai", "2021-01-12",
                "19:30", 4, "person 1", 38));
            st.executeUpdate("Insert into booking values (130,
                "vijayawada", "hyderabad", "2021-01-20", "9:30", 5, "person2",
                40));
            ResultSet rs = st.executeQuery("select * from booking);
            while (rs.next()) {
                System.out.println("Ticket no:" + rs.getInt("Ticket
                    number"));
```

```java
System.out.println("source:" + rs.getString ("source"));
System.out.println("Destination:" + rs.getString ("destination"));
}
con.close();
st.close();
}
catch (Exception e) {
    e.printStackTrace();
    }
   }
}
```

output:

Connection Established

Ticket no : 131

Source : hyderabad

destination : chennai

Ticket no : 130

Source : vijayawada

destination: hyderabad.