Internet technology Final practical list

csc/18/41

FALAK

Java

Ques-1- implement a bank account having instance variables:Account variables : account number balance and having methods:

float deposit(float x)

float withdraw(float x)

Int get account no()

float get balance()

tex deduction()

```
 package mybank.pkg;

import java.util.ArrayList;

import java.util.*;


class Bankaccount{

  private:

         int account_number;

         double balance;

         double tex_rate;

  public:

          Bankaccount(double amt)

            {

                 balance=amt;

                 account_number= account_number+1;

            }

         Bankaccount(int ac,double ba)
```

```
      {
           account_number=ac;
            balance=ba;
     }
public float deposit(float x)
    {
          double new_balance;
          new_balance=balance+x;
          balance=new_balance;
          return balance;
   }
public float withdraw(float x)
    {
           double new_balance=balance-x;
           balance=new_balance;
           return balance;
     }
 public int get_accountno()
    {
         return account_number;
    }
 public float get_balance()
      {
               return balance;
     }
    public double tex_deduction()
      {
            tex_rate=(balance*tex_rate)/100;
             balance=balance-tex_rate;
```

```
                  return balance;
          }
class BA{
public static void main(String args[])
        {     ArrayList<bankaccount>acc;
             BA(){
                             acc= new ArrayList<bankaccount>();}
               void AddAcc(BankAccount A1){
                acc.add(A1);}
                // get total balance in bank
         double total(){
                         double sum=0.0;
                for(bankaccount A1: acc)
                    {
                         sum=sum+ A1.getbalance();
                         return sum;
                    }
               int get_maximum(){
        if(acc.size()==0)
         return 0;
   else{
         bankaccount m=acc.get(0);
         double max=m.get_balance();
         for(int i=1;i<acc.size();i++)
               {
                    bankaccount a=acc.get(i);
                    double temp=a.get_balance();
                               if(max<=temp)
                                 {
```

```
                   max=temp;
                    m=a;
                 }
            return m;
          }
       System.out.println("account number with maximum balance")
    m.get_accountno();
    int get_minimum(){
            if(acc.size()==0)
            return 0;
              else{
        bankaccount mi=acc.get(0);
        double min=mi.get_balance();
     for(int i=1;i<acc.size();i++)
        {
          bankaccount a=acc.get(i);
          double temp=a.get_balance();
                if(min>=temp)
                 {
                   min=temp;
                    mi=a;
                 }
            return mi;
       System.out.println("account number with minimum balance")
     mi.get_accountno());}

// find an account given a bank account number
       bankaccount find_ac(bankaccount account_number)
         {
            for( bankaccount A1:acc)
                if(A1.get_accountno()==account_number)
                    {
                          return A1;}
               else
                     {
                          return;}
          int Count_n(int atleast){
                int count=0;
               for(bankaccount A1:acc)
                     if(A1.get_balance()>=atleast)
                          count++;
                        return count;}
                        }
```

```
class bank

        {

                public static void main(String args[])

                {

                        Scanner sc = new Scanner(System.in);

                        ArrayList <bankaccount> acc= new ArrayList
<bankaccount>();

                        acc.add(new bankaccount(1000,5000));

                        acc.add(new bankaccount(1001,6000));

                        acc.add(new bankaccount(1002,7000));

                        BA b = new BA();
                        b.AddAcc(new bankaccount(1002,7000));

                        System.out.println("Account Added.");

                        System.out.println("Total Balance in Bank is: " + b.sum());

                        System.out.println("Maximum Balance is: " + b.get_Maximum());

                        System.out.println("Minimum Balance is: " + b.get_Minimum());

                        System.out.println("Number of Accounts in Bank with atleast 2000 Deposit: " + b.Count_N(2000));

                        System.out.println("Enter Account Number to be Searched for: ");

                        int num = sc.nextInt();

                        int accs = b.FindAcc(num);



                        if(accs.equals(null))

                                System.out.println("No such Account.");

                        else

                                System.out.println("Account Found.");

                }
```

Ques-2 Implement an abstract class with methods push,pop,display for two classes.StaticStack and DynamicStack.

```
package mypkg1.pkg;
import java.util.Scanner;
import java.util.ArrayList;

abstract class stack
{
public :
int top;
 public stack(){
top = -1;
}
public abstract void push(int element);
public abstract int pop();
public abstract void display();
}

class static_st extends stack{
public:
 int array[];
 int size;

public static_st(){
super();
}

public static_st(int n){
super();
size = n;
array = new int[size];
```

```
}

public void push(int element){
if(super.top == size-1){
System.out.println("Stack Overflow");
}
else{
super.top++;
array[super.top] = element ;
}
}

public int pop(){
int a= 0;
if(super.top == -1){
System.out.println("Stack Underflow");
}
else{
a = array[super.top];
super.top --;
}
return a;
}

public void display(){
System.out.println("Elements are following:-");
for(int i = super.top;i>=0;i--){
System.out.print(array[i]+"\t");
}
```

```
}
}

class dynamic_stck extends stack{
ArrayList<Integer> A1;

public dynamic_st(){
super();
A1 = new ArrayList<Integer>();
}

public void push(int element){
super.top++ ;
A1.add(super.top, element);
}

public int pop(){
int a= 0;
a= a1.remove(top);
super.top--;

return a;
}

public void display(){
System.out.println("Elements in Array List is following :- ");
for(int i = A1.size()-1;i>=0;i--){
System.out.print(A1.get(i)+"  ");
}
```

```
}


}



public class ST{
public static void main(String[] args){
int size, choice;
int c = 0;
System.out.println("You can implement stack in two ways :- .");
System.out.println("1.) Array Implementation \t\t\t 2.)ArrayList Implementation");
System.out.println("Enter your choice(either 1 or 2) :- ");
Scanner sc = new Scanner(System.in);
c = sc.nextInt();


if(c == 1){
System.out.println("Enter the Size of the stack :- ");
Scanner s = new Scanner(System.in);
size = s.nextInt();
static_st st = new static_st(size);
boolean flag = true;
while(flag){
System.out.println("\n******************Operations can be prformed on 
stack.********************");
System.out.println("1.)PUSH.");
System.out.println("2.)POP.");
System.out.println("3.)DISPLAY.");
System.out.println("Enter the number corresponding to operation you want to perform on 
stack :-");
System.out.println("If you want to quit enter 5.");
```

```
Scanner s1 = new Scanner(System.in);
choice = s1.nextInt();
switch(choice){
case 1:
System.out.println("Enter the element you want to push :- ");
Scanner s2 = new Scanner(System.in);
int e = s2.nextInt();
st.push(e);
break;
case 2:
int val = st.pop();
System.out.println(" Element popped from the stack is :- "+val );
break;

case 3:
st.display();
break;

case 4:
System.out.println("INVALID CHOICE.");
flag = false;
break;

case 5:
flag = false;
break;
}
}
}
```

```
else if(c == 2){
dynamic_stck ds = new dynamic_stck();
boolean f =true;
while(f){
System.out.println("\n******************Operations can be prformed on stack.********************");
System.out.println("1.)PUSH.");
System.out.println("2.)POP.");
System.out.println("3.)DISPLAY.");
System.out.println("Enter the number corresponding to operation you want to perform on stack :-");
System.out.println("If you want to quit enter 5.");
Scanner s1 = new Scanner(System.in);
choice = s1.nextInt();
switch(choice){
case 1:
System.out.println("Enter the element you want to push :- ");
Scanner s2 = new Scanner(System.in);
int e = s2.nextInt();
ds.push(e);
break;
case 2:
int val = ds.pop();
System.out.println(" Element popped from the stack is :- "+val );
break;

case 3:
ds.display();
break;
```

```
case 4:

System.out.println("INVALID CHOICE.");

f = false;

break;


case 5:

f = false;

break;

}

}

}


}

}
```

Output-

```
You can implement stack in two ways :- .

1.) Array Implementation                    2.)ArrayList Implementation

Enter your choice(either 1 or 2) :-

1

Enter the Size of the stack :-

5


******************Operations can be prformed on stack.********************

1.)PUSH.

2.)POP.

3.)DISPLAY.

Enter the number corresponding to operation you want to perform on stack :-

If you want to quit enter 5.

1
```

```
Enter the element you want to push :-
5


******************Operations can be prformed on stack.********************
1.)PUSH.
2.)POP.
3.)DISPLAY.
Enter the number corresponding to operation you want to perform on stack :-
If you want to quit enter 5.
3
Elements are following:-
5
******************Operations can be prformed on stack.********************
1.)PUSH.
2.)POP.
3.)DISPLAY.
Enter the number corresponding to operation you want to perform on stack :-
If you want to quit enter 5.
```

Javabeans

Ques-1 implement student bean using serializably interface:

```
<html>
   <head>
```

```
        <title>
            Student info:
        </title>
    </head>



    <body>
        <h2>Enter the student info:-</h2>
        <form action="stu.jsp" method="get">
          Enter your name: <input name="name" type="text" value=""><br/>
            <br/>
  Enter your rollno:<input name="rollno" type="text" value=""><br/><br/>
 Enter your Course:<input name="course" type="text" value=""><br/><br/
>
            Enter your address:<input name="address" type="text"
value=""><br/><br/>
            Enter your Emailid:<input name="email_id" type="text"
value=""><br/><br/>
            Enter your DOB:<input name="dob" type="text"
value=""><br/><br/>
            gender:<input name="gender" type="radio"
value="female">Female
            <input name="male" type="radio" value="male">Male<br/>
            <input  type="submit" value="submit"><br/>
           <br/>
        </form>
    </body>

</html>
```

```
package mypkg1.emp;

public class EmployeeBean implements java.io.Serializable {

   private static String[] GENDER_LIST={"m”,”f”};
   private String employee;
   private int empid;
   private String dept;
   private int salary;

  private String address;
  private String gender;
 private String dob;
  private String email_id;


public String getEname() {
  return ename;   }

 public void setEname(String ename) {
 this.ename = ename;   }

public boolean isNameValid {
boolean isValid=false;
  if(ename!=null)
 {
isValid=0;
return isValid; }
public int getEmpid() {
 return empid;
   }
 public boolean isEmpidValid() {
boolean isValid=false;
 if(empid !=0)
```

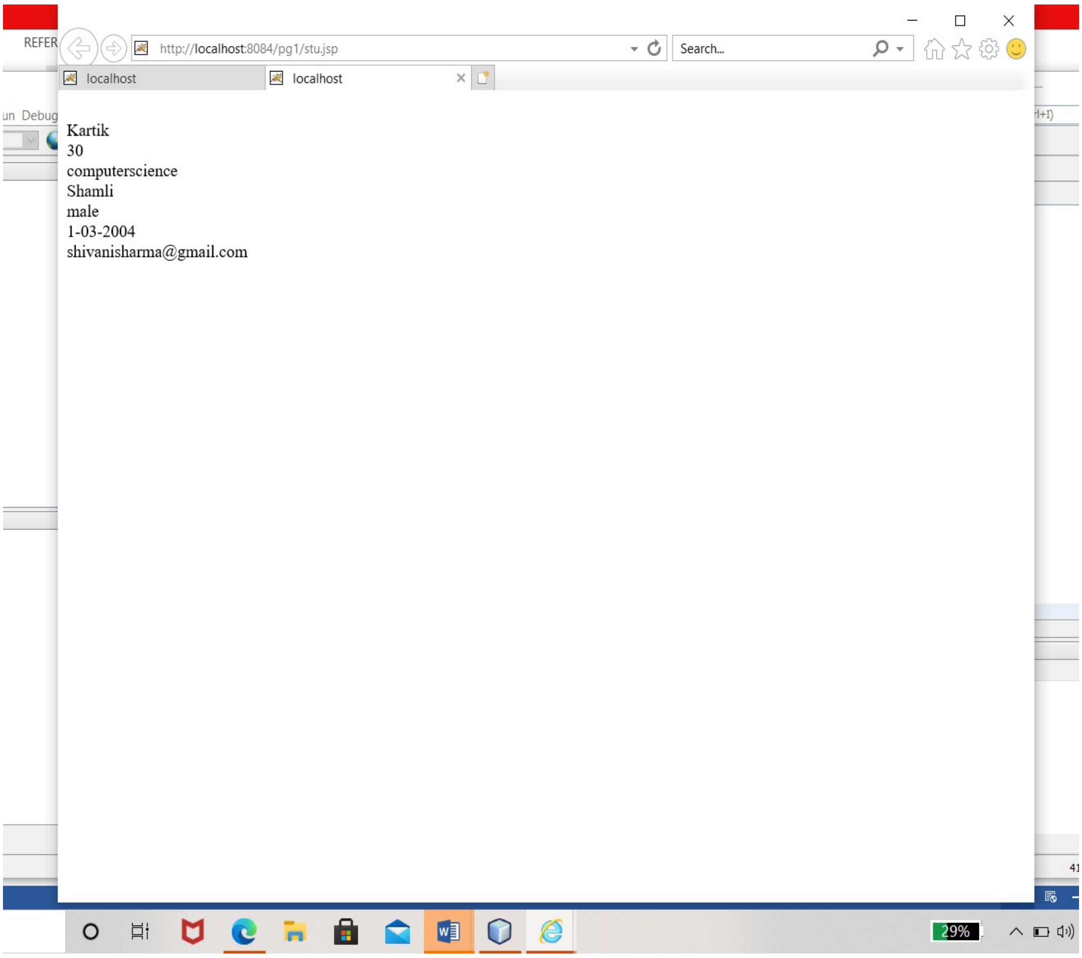
```
  {
isValid=true;

return isValid;}

    public String getEmail_id() {
        return email_id;
    }

    public void setEmail_id(String email_id) {
        this.email_id = email_id;
    }

    public boolean isEmail_idValid()
    {
        boolean isValid=false;
        if(email_id!=null)
        {
            isValid=true;
        }
        return isValid;

    }

}

public void setEmpid(int empid) {
        this.empid = empid;
    }

    public String getDept() {
        return dept;
    }

    public void setDept(String dept) {
        this.dept = dept;
    }
    public boolean isDeptValid()
    {
        boolean isValid=false;
        if(dept!="null")
        {
            isValid=true;
        }
        return isValid;

    }

     public int getSalary() {
        return salary;
    }

    public void setSalary(int salary) {
        this.salary = salary;
    }
public boolean isSalaryValid()
    {
        boolean isValid=false;
        if(salary!=0)
        {
            isValid=true;
        }
        return isValid;

    }
    public String getAddress() {
        return address;
    }

    public void setAddress(String address) {
        this.address = address;
    }

    public boolean isAddressValid()
    {
        boolean isValid=false;
        if(address!=null)
        {
            isValid=true;
        }
        return isValid;

    }

    public String getGender() {
        return gender;
    }
```

```
}

public void setGender(String gender) {
    this.gender = gender;
}
public boolean isGenderValid()
{
    boolean isValid=false;
    if(gender=="m"||gender=="f")
    {
        isValid=true;
    }
    return isValid;

}

public String getDob() {
    return dob;
}

public void setDob(String dob) {
    this.dob = dob;
}

public boolean isDobValid()
{
    boolean isValid=false;
    if(dob!=null){

        isValid=true;
    }
    return isValid;

}

public String getEmail_id() {
    return email_id;
}

public void setEmail_id(String email_id) {
    this.email_id = email_id;
}

public boolean isEmail_idValid()
{
        boolean isValid=false;
        if(email_id!=null)
        {
           isValid=true;
        }
        return isValid;

    }

}
```

Stu.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-
8">

    </head>
    <body>
        <jsp:useBean id="s1" scope="page"
class="pkg1.stu.StudentBean"></jsp:useBean

 <jsp:setProperty name="s1" property="name" value="shivi" /><br/>
        <jsp:getProperty name="s1" property="name"/>


        <jsp:setProperty name="s1" property="rollno" value="256" /><br/>
        <jsp:getProperty name="s1" property="rollno"/>


        <jsp:setProperty name="s1" property="course" value="HR" /><br/>
        <jsp:getProperty name="s1" property="course"/>


                <jsp:setProperty name="s1" property="address"
value="Delhi" /><br/>
```

```
        <jsp:getProperty name="s1" property="address"/>

                <jsp:setProperty name="s1" property="gender" value="female"
/><br/>
        <jsp:getProperty name="s1" property="gender"/>

                <jsp:setProperty name="s1" property="dob" value="25-03-
2001" /><br/>
        <jsp:getProperty name="s1" property="dob"/>

                <jsp:setProperty name="s1" property="email_id"
value="shivanisharma@gmail.com" /><br/>
        <jsp:getProperty name="s1" property="email_id"/>




    </body>
</html>
```



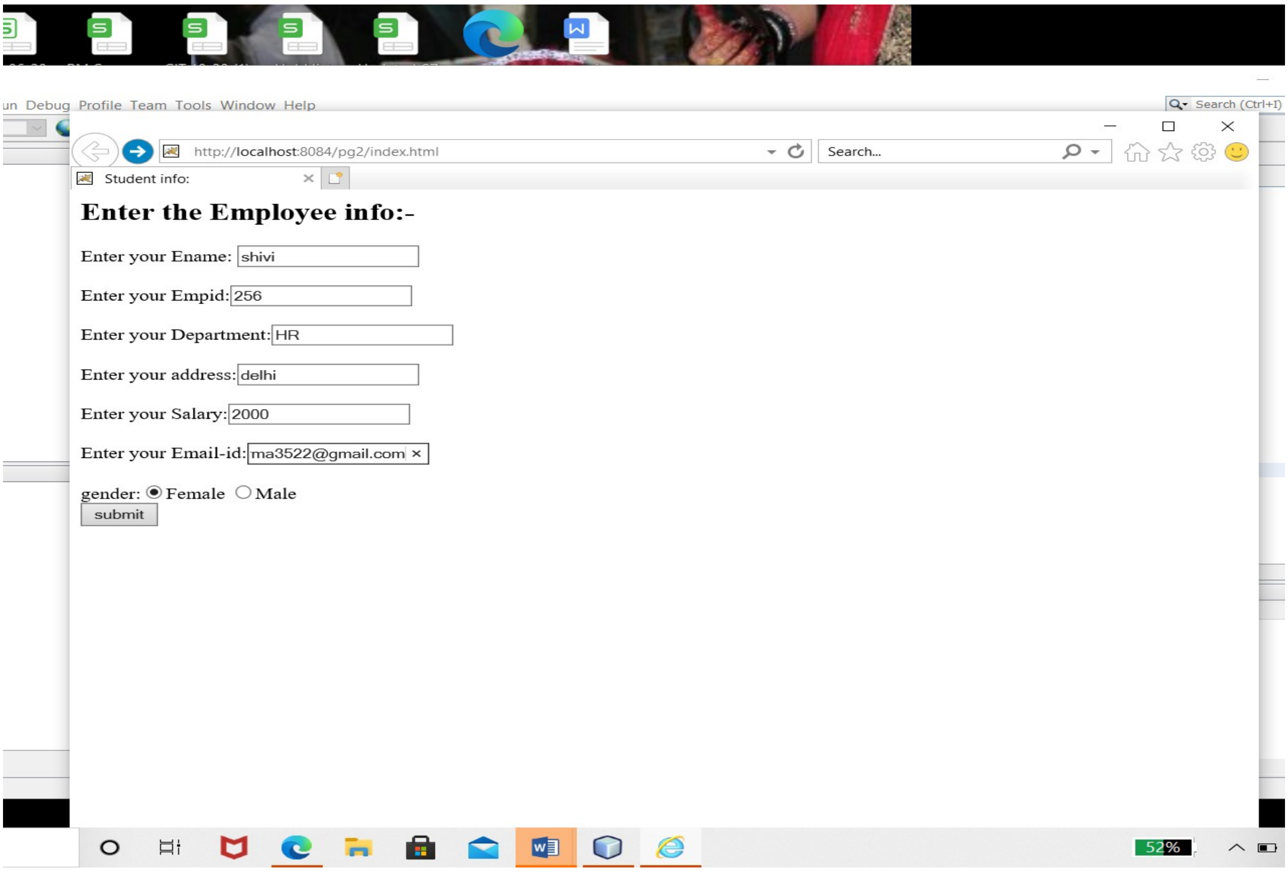
```
Kartik
30
computerscience
Shamli
male
1-03-2004
shivanisharma@gmail.com
```

Q2. <u>Implement Employee JavaBean using Serializability Interface.</u>

Index.html

```
<html>
    <head>
        <title>
            Employee info:
```

```
    </title>
  </head>


  <body>
    <h2>Enter the Employee info:-</h2>
    <form action="Emp.jsp" method="get">
     Enter your Ename: <input name="ename" type="text" value=""><br/>
      <br/>
       Enter your Empid:<input name="empid" type="text"
value=""><br/><br/>
       Enter your Department:<input name="dept" type="text" value=""><br/
><br/>
       Enter your address:<input name="address" type="text"
value=""><br/><br/>
       Enter your Salary:<input name="salary" type="text" value=""><br/><br/
>
       Enter your Email-id:<input name="empail_id" type="text"
value=""><br/><br/>
       gender:<input name="gender" type="radio" value="female">Female
       <input name="male" type="radio" value="male">Male<br/>
       <input  type="submit" value="submit"><br/>
      <br/>
    </form>
  </body>
</html>
```


un Debug Profile Team Tools Window Help
Search (Ctrl+I)
http://localhost:8084/pg2/index.html
Search...
Student info:
52%

Enter the Employee info:-

Enter your Ename: shivi

Enter your Empid: 256

Enter your Department: HR

Enter your address: delhi

Enter your Salary: 2000

Enter your Email-id: ma3522@gmail.com

gender: ● Female ○ Male

submit

EmployeeBean.java

```
public class EmployeeBean implements java.io.Serializable {

    private static String[] GENDER_LIST={"m","f"};
    private String ename;
    private int empid;
    private String dept;
    private int salary;
    private String address;
    private String gender;
    private String dob;
    private String email_id;
```

```
public String getEname() {
    return ename;
}

public void setEname(String ename) {
    this.ename = ename;
}

public boolean isNameValid()
{
    boolean isValid=false;
    if(ename!=null)
    {
        isValid=true;
    }
    return isValid;

}
public int getEmpid() {
    return empid;
}
public boolean isEmpidValid()
{
    boolean isValid=false;
    if(empid !=0)
    {
        isValid=true;
    }
    return isValid;

}

public void setEmpid(int empid) {
    this.empid = empid;
}

public String getDept() {
    return dept;
}

public void setDept(String dept) {
    this.dept = dept;
}
public boolean isDeptValid()
{
    boolean isValid=false;
    if(dept!="null")
```

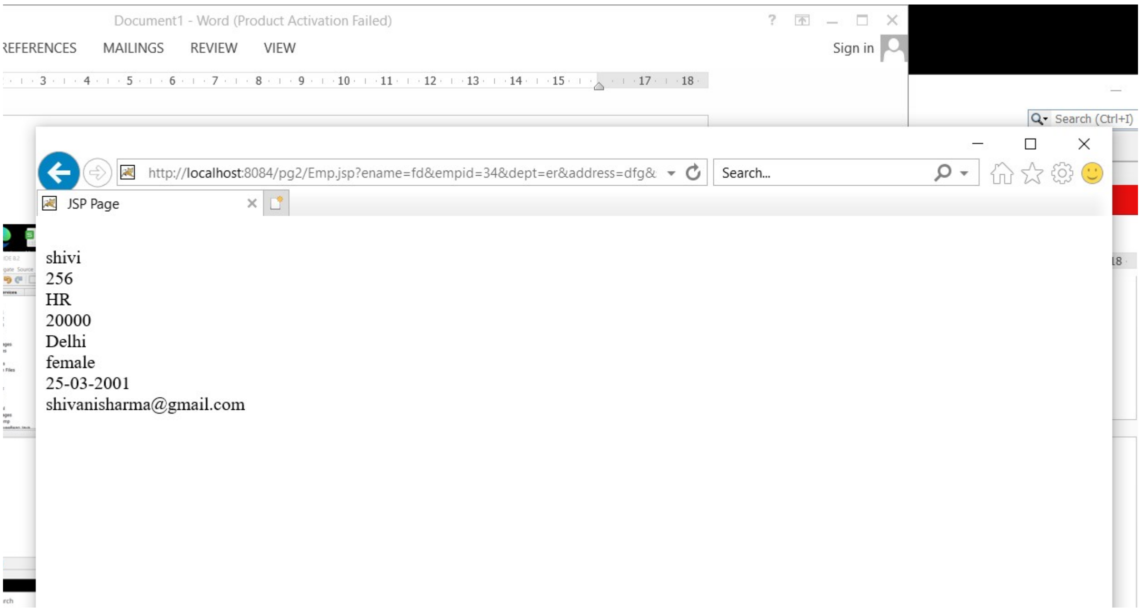
```
        {
            isValid=true;
        }
        return isValid;

    }

     public int getSalary() {
        return salary;
    }

    public void setSalary(int salary) {
        this.salary = salary;
    }
public boolean isSalaryValid()
    {
        boolean isValid=false;
        if(salary!=0)
        {
            isValid=true;
        }
        return isValid;

    }
```

```
public String getAddress() {
    return address;
}

public void setAddress(String address) {
    this.address = address;
}

public boolean isAddressValid()
{
    boolean isValid=false;
    if(address!=null)
    {
        isValid=true;
    }
    return isValid;

}

public String getGender() {
    return gender;
}

public void setGender(String gender) {
    this.gender = gender;
}
public boolean isGenderValid()
{
    boolean isValid=false;
    if(gender=="m"||gender=="f")
    {
        isValid=true;
    }
    return isValid;

}

public String getDob() {
    return dob;
}

public void setDob(String dob) {
    this.dob = dob;
}

public boolean isDobValid()
{
    boolean isValid=false;
    if(dob!=null){

        isValid=true;
    }
    return isValid;

}

public String getEmail_id() {
    return email_id;
}

public void setEmail_id(String email_id) {
    this.email_id = email_id;
}

public boolean isEmail_idValid()
{
    boolean isValid=false;
    if(email_id!=null)
    {
        isValid=true;
    }
    return isValid;
    }

}
```

Emp.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>
        <jsp:useBean id="e1" scope="page" class="mypkg1.emp.EmployeeBean"></jsp:useBean>
        <jsp:setProperty name="e1" property="ename" value="shivi" /><br/>
        <jsp:getProperty name="e1" property="ename"/>


        <jsp:setProperty name="e1" property="empid" value="256" /><br/>
        <jsp:getProperty name="e1" property="empid"/>
        <jsp:setProperty name="e1" property="dept" value="HR" /><br/
>
        <jsp:getProperty name="e1" property="dept"/>

                <jsp:setProperty name="e1" property="salary"
value="20000" /><br/>
        <jsp:getProperty name="e1" property="salary"/>

                <jsp:setProperty name="e1" property="address"
value="Delhi" /><br/>
        <jsp:getProperty name="e1" property="address"/>

                <jsp:setProperty name="e1" property="gender"
value="female" /><br/>
        <jsp:getProperty name="e1" property="gender"/>

                <jsp:setProperty name="e1" property="dob" value="25-03-
2001" /><br/>
        <jsp:getProperty name="e1" property="dob"/>

                <jsp:setProperty name="e1" property="email_id"
value="shivanisharma@gmail.com" /><br/>
        <jsp:getProperty name="e1" property="email_id"/>
```

```
    </body>
</html>
```


Document1 - Word (Product Activation Failed)
REFERENCES
MAILINGS
REVIEW
VIEW
Sign in
Search (Ctrl+I)
http://localhost:8084/pg2/Emp.jsp?ename=fd&empid=34&dept=er&address=dfg&
Search...
JSP Page

```
shivi
256
HR
20000
Delhi
female
25-03-2001
shivanisharma@gmail.com
```

JDBC

1. Create Student and Results Database and perform the following using JDBC programs

a. Find total number of students

b. Print average marks for each subject input by user.

c. Find the name of student getting highest marks.

d. Find no of students getting first, second and third division.

e. Find subject wise toppers

f. Find the average marks

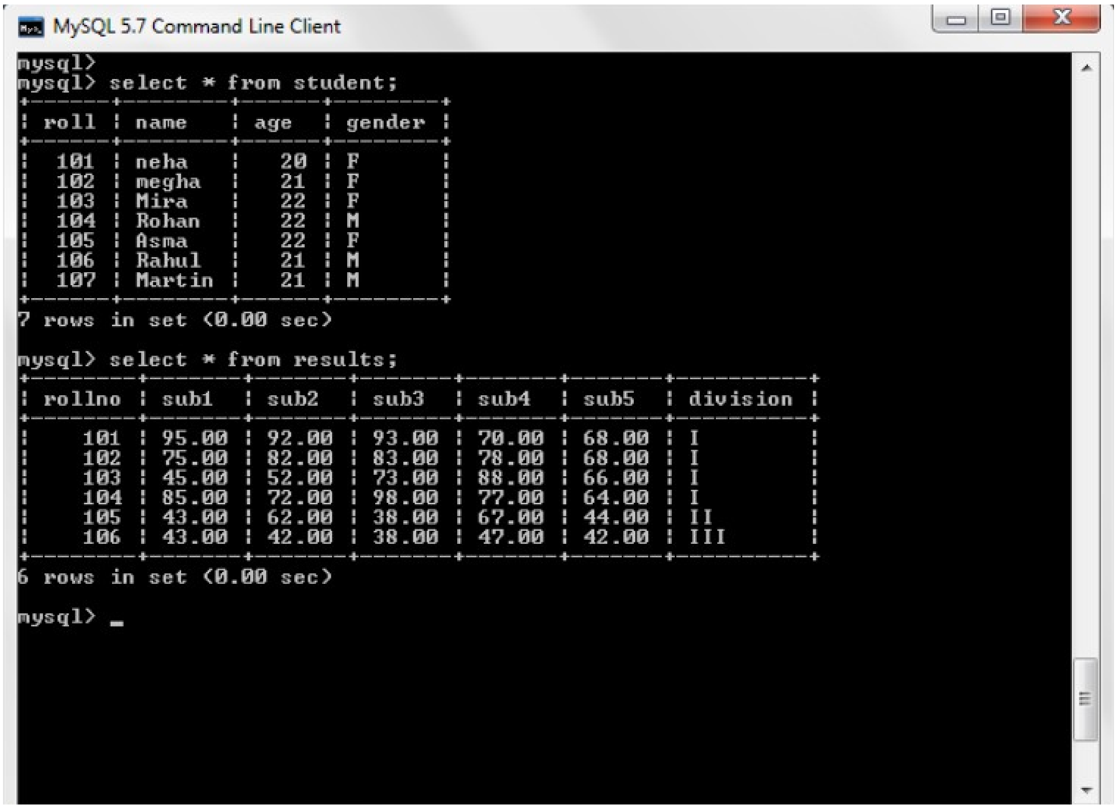
g. Find the student getting second highest marks.

First in mysql, we create the two tables and insert the data using following queries:

create table student (roll int primary key, name varchar(20), age int, gender char(1));

create table results (rollno int primary key, sub1 decimal(10,2), sub2 decimal(10,2), sub3 decimal(10,2), sub4 decimal(10,2), sub5 decimal(10,2), division char(3), constraint fk_roll foreign key(rollno) references student(roll));

Then using INSERT query, we insert the data. Let the data in the two tables be as shown below:



```
mysql>
mysql> select * from student;
+------+--------+------+--------+
| roll | name   | age  | gender |
+------+--------+------+--------+
|  101 | neha   |   20 | F      |
|  102 | megha  |   21 | F      |
|  103 | Mira   |   22 | F      |
|  104 | Rohan  |   22 | M      |
|  105 | Asma   |   22 | F      |
|  106 | Rahul  |   21 | M      |
|  107 | Martin |   21 | M      |
+------+--------+------+--------+
7 rows in set (0.00 sec)

mysql> select * from results;
+--------+-------+-------+-------+-------+-------+----------+
| rollno | sub1  | sub2  | sub3  | sub4  | sub5  | division |
+--------+-------+-------+-------+-------+-------+----------+
|    101 | 95.00 | 92.00 | 93.00 | 70.00 | 68.00 | I        |
|    102 | 75.00 | 82.00 | 83.00 | 78.00 | 68.00 | I        |
|    103 | 45.00 | 52.00 | 73.00 | 88.00 | 66.00 | I        |
|    104 | 85.00 | 72.00 | 98.00 | 77.00 | 64.00 | I        |
|    105 | 43.00 | 62.00 | 38.00 | 67.00 | 44.00 | II       |
|    106 | 43.00 | 42.00 | 38.00 | 47.00 | 42.00 | III      |
+--------+-------+-------+-------+-------+-------+----------+
6 rows in set (0.00 sec)

mysql> _
```

MyClass.java:

/*

Q1 Create Student and Results Database and perform the following using JDBC programs

a. Find total number of students

b. Print average marks for each subject input by user.

c. Find the name of student getting highest marks.

d. Find no of students getting first, second and third division.

e. Find subject wise toppers

```
f. Find the average marks
g. Find the student getting second highest marks.
 */
package javaapplication3;

import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import java.util.Scanner;
public class MyClass {


    public static void main(String[] args) {
        // TODO code application logic here
        String query1, query2, query3, query4, query5, query6, query7;
        Statement st1;
        PreparedStatement st2;
        Connection con;
        ResultSet rs1,rs2;



        int sub;
        Scanner input = new Scanner(System.in);
        System.out.println("--------------------USING JDBC--------------------");
        System.out.println("------for accessing student and results table-----");
        System.out.println("--------------------------------------------------");
        try{
          Class.forName("com.mysql.jdbc.Driver");
          con = DriverManager.getConnection("jdbc:mysql://localhost:3306/college","root","root");

          st1= con.createStatement();
          query1 = "select count(*) as 'Total Number of Students' from student";
          String query21 = "select avg(sub1) as 'Average of Subject 1', avg(sub2) as 'Average of Subject 2', "
                  + "avg(sub3) as 'Average of Subject 3',avg(sub4) as 'Average of Subject 4', "
                  + "avg(sub5) as 'Average of Subject 5' from results ";
          query2 = "select avg(sub?) from results";
          query3 = "select name from student where roll in (select rollno from results having max(sub1+sub2+sub3+sub4+sub5))";
          query4 = "select distinct( select count(*) from results where division = 'I') as 'Div I', "
                 + "( select count(*) from results where division = 'II') as 'Div II', "
                 + "( select count(*) from results where division = 'III') as 'Div III' from results";
          query5 = "select distinct (select name from student where roll in (select rollno from results having max(sub1))) as 'Sub1 topper',"
                  + "(select name from student where roll in (select rollno from results having max(sub2))) as 'Sub2 topper',"
                  + "(select name from student where roll in (select rollno from results having max(sub3))) as 'Sub3 topper',"
```

```
              + "(select name from student where roll in (select rollno from results having
max(sub4))) as 'Sub4 topper',"
              + "(select name from student where roll in (select rollno from results having
max(sub5))) as 'Sub5 topper'"
              + " from results";
         query6 = "select avg(sub1+sub2+sub3+sub4+sub5) as 'Average of Marks' from results";
         query7 = "select rollno,max(sub1+sub2+sub3+sub4+sub5) as 'Second Highest Marks'
from results "
               + "where (sub1+sub2+sub3+sub4+sub5)< (select max(sub1+sub2+sub3+sub4+sub5)
from results)";

        rs1 = st1.executeQuery(query1);

        System.out.println("Output of Query 1");
        System.out.print("Total number of students: ");
        while(rs1.next()){
           System.out.println(rs1.getInt(1));
        }


        st2 = con.prepareStatement(query2);
        System.out.println("Enter the subject number whose average you want to see: ( 1,2,3,4 or
5): ");
        sub = input.nextInt();
        switch(sub){
           case 1:
               st2.setInt(1, 1);
               break;
           case 2:
               st2.setInt(1, 2);
               break;
           case 3:
               st2.setInt(1, 3);
               break;
           case 4:
               st2.setInt(1, 4);
               break;
           case 5:
               st2.setInt(1, 5);
               break;
           default: System.out.println("Wrong number entered!");

        }
        if(sub ==1 || sub==2|| sub==3|| sub==4||sub==5){
           rs1 = st2.executeQuery();

        System.out.println("Output of Query 2");
        System.out.print("Average marks for subject "+ sub +" : ");
        while(rs1.next()){
           System.out.println(rs1.getInt(1));
        }
        }
```

```
}

        rs1 = st1.executeQuery(query3);
        System.out.println("Output of Query 3");
        System.out.print("Overall topper: ");
        while(rs1.next()){
           System.out.println(rs1.getString(1));
        }
        rs1 = st1.executeQuery(query4);
        System.out.println("Output of Query 4 - no of students getting first, second and third
division: ");
        System.out.println("I Div  II Div  III Div ");
        while(rs1.next()){
           System.out.println(rs1.getInt(1)+ " "+ rs1.getInt(2)+ " "+ rs1.getInt(3));
        }

        rs1 = st1.executeQuery(query5);
        System.out.println("Output of Query 5: Subject wise topper");
        System.out.println("Sub1 Sub2 Sub3 Sub4 Sub5 ");
        while(rs1.next()){
           System.out.println(rs1.getString(1)+ " "+ rs1.getString(2)+ " "+ rs1.getString(3)+ " "+
rs1.getString(4)+ " "+ rs1.getString(5));
        }

        rs1 = st1.executeQuery(query6);
        System.out.println("Output of Query 6 ");
        System.out.print("Avergae marks: ");
        while(rs1.next()){
           System.out.println(rs1.getInt(1));
        }

        rs1 = st1.executeQuery(query7);
        System.out.println("Output of Query 7 ");
        System.out.print("Student roll no with second highest marks: ");
        while(rs1.next()){
           System.out.println(rs1.getInt(1));
        }


      }
      catch(ClassNotFoundException e){
         System.out.println(e.getMessage());

      }
      catch(SQLException e){
         e.printStackTrace();
      }
   }


}
```

Output:

```
Total number of students: 7
Enter the subject number whose average you want to see: ( 1,2,3,4 or 5):
3
Output of Query 2
Average marks for subject 3 : 70
Output of Query 3
Overall topper: neha
Output of Query 4 - no of students getting first, second and third division:
I Div  II Div  III Div
4 1 1
Output of Query 5: Subject wise topper
Sub1 Sub2 Sub3 Sub4 Sub5
neha neha neha neha neha
Output of Query 6
Avergae marks: 331
Output of Query 7
Student roll no with second highest marks: 102
BUILD SUCCESSFUL (total time: 3 seconds)
```

2. Create a procedure in MySQL to count the number of Rows in table 'Student'. Use CallableStatement to call this method from Java code.

First create a stored procedure in MySql

```
mysql> delimiter $

mysql> create procedure total( OUT total_students int)

    -> select count(*) into total_students from student;

    -> $

mysql> delimiter ;
```

MyClass2.java:

```
package javaapplication3;


import java.sql.CallableStatement;

import java.sql.Connection;

import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import java.sql.Types;

public class MyClass2 {

    public static void main(String[] args) {
        String query1;
        CallableStatement st1;
        Connection con;

        try{
           Class.forName("com.mysql.jdbc.Driver");
           con = DriverManager.getConnection("jdbc:mysql://localhost:3306/college","root","root");
           query1 = "call total(?);";
           st1= con.prepareCall(query1);
           st1.registerOutParameter(1, Types.INTEGER);
           System.out.print("Number of Students: ");
           st1.execute();
          System.out.println(st1.getInt(1));

        }
        catch(ClassNotFoundException e){
            System.out.println(e.getMessage());

        }
        catch(SQLException e){
            e.printStackTrace();
        }
```

```
   }

}
```

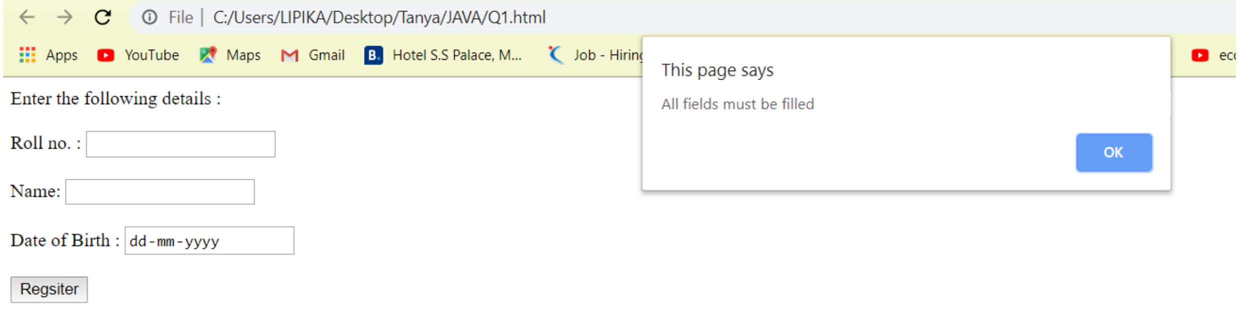
Javascript

Ques-1

Q1. Create a student registration form. Create functions to perform the following checks:
a. Roll number is a 7 digit numeric value
b. Name should be an alphabetical value (String)
c. DOB entered in dd/mm/yy format and should be display in words (e.g. Saturday, January 01, 2000)
d. Check on non-empty fields

```
<html>
<head>
<title> user registration form </title>
</head>

<script>

 function validate()
{
        var roll=parseInt(document.myform.roll.value);
        var name=document.myform.username.value;
        var dob=document.myform.dob.value;

        if(roll=="" || name=="" || dob=="")
        {
                alert("All fields must be filled");
        }

        else if(roll.match(/[0-9]{7}/))
        {
                alert("ROll number should be of 7 digits only");
        }

        else if(!name.match(/[a-zA-Z]+$/))
        {
```

```
                    alert("NAme should contains alphabets only");
          }

          else
          {
                    alert("Registration Successful!");
                    return true;
          }
}

</script>

<body>

<form method="get" name="myform" action="Q1.html"  onSubmit="validate()" />
          Enter the following details :<br><br>

          Roll no. :
                    <input type="text" name="roll" value=""/><br><br>

          Name:
                    <input type="text" name="username" value=""/> <br><br>

          Date of Birth :
                    <input type="date" name="dob" value=""/><br><br>

          <input type="submit" value="Regsiter"/>
</form></body>
</html>
```



Enter the following details :

Roll no. :

Name:

Date of Birth : dd-mm-yyyy

Regsiter

This page says

All fields must be filled

OK

Ques2-implement a Static password protection-

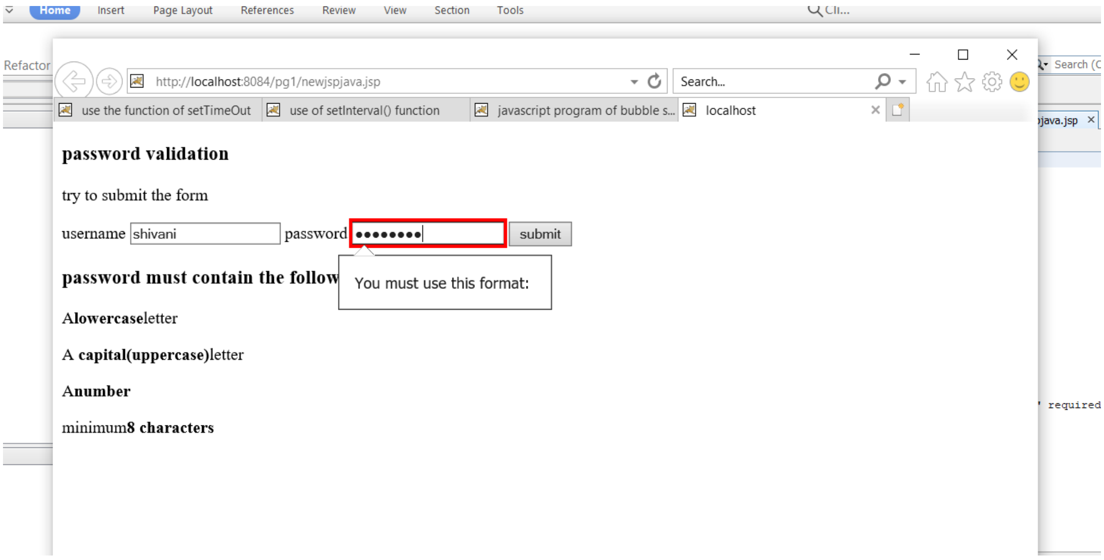
<!DOCTYPE html>

```
<html>
<head>
<meta name="viewport"
content="width=device-width,initial-scale=1">
</head>
<body>
<h3>password validation</h3>
<p>try to submit the form</p>
<div class="container">
<form action="container">
   <form action="/action_page.php">
<label for ="username">username</label>
<input type="text" id="username" name="username"
required>
<label for ="pwd">password</label>
<input type="password" id="psw" name="psw" pattern="(?
=.*[a-z])(?=.*[A-Z]).{8,}"
<title="must contain atleast one number and one uppercase
and lowercase letter,and at least 8 or more characters"
required>


<input type="submit" value="submit">
</form>
```

```
</div>


<div id ="message">
<h3>password must contain the following:</h3>
<p id ="letter" class="invalid">A<b>lowercase</b>letter</p>
<p id="capital" class="invalid">A
<b>capital(uppercase)</b>letter</p>
<p id="number" class="invalid">A<b>number</b></p>
<p id ="length" class="invalid">minimum<b>8
characters</b></p>
</div>


<script>
var myinput=document.getElementById("pwd");
var letter=document.getElementById("letter");
var capital=document.getElementById("capital");
var number=document.getElementById("number");
var length=document.getElementById("length");


myinput.onkeyup=function(){
        var lowercaseLetters=/[a-z]/g;
         if(myinput.value.match(lowercaseLetters)){
```

```
 letter.classList.remove("invalid");
  letter.classList.add("valid");}
else{
            letter.classList.remove("valid");
            letter.classList.add("invalid");
        }
      var uppercaseLetters=/[A-z]/g;
         if(myinput.value.match(uppercaseLetters)){
 capital.classList.remove("invalid");
  capital.classList.add("valid");}
else{
            capital.classList.remove("valid");
            capital.classList.add("invalid");
        }
    var number=/[0-9]/g;
         if(myinput.value.match(number)){
 number.classList.remove("invalid");
  number.classList.add("valid");}
else{
            number.classList.remove("valid");
            number.classList.add("invalid");
        }
```

```
            if(myinput.value.length>=8){
               length.classList.remove("invalid");
               length.classList.add("valid");}
   else{
                length.classList.remove("valid");
                length.classList.add("invalid");
           }
     }
  </script>
 </body>
</html>
```


Home
Insert
Page Layout
References
Review
View
Section
Tools
Refactor
http://localhost:8084/pg1/newjspjava.jsp
Search...
use the function of setTimeOut
use of setInterval() function
javascript program of bubble s...
localhost
java.jsp
required

password validation

try to submit the form

username shivani password •••••••• submit

password must contain the follow

You must use this format:

Alowercaseletter

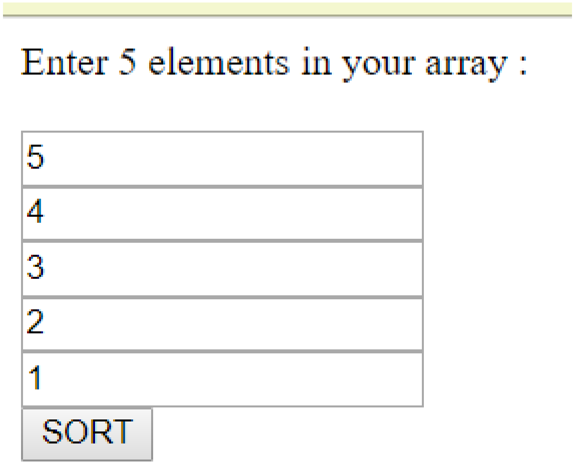
A **capital(uppercase)**letter

Anumber

minimum**8 characters**

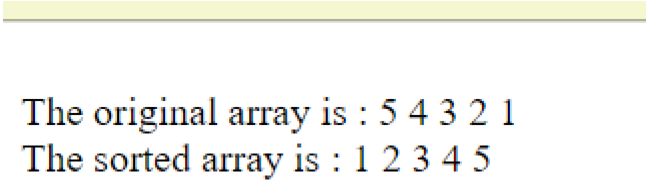
Q3. Write a java script to sort an array using bubble sort. Take the number of elements and array from user.

```
<html>
<head>
<title> bubble sort </title>

<script>

var temp, j=0,i=0;
var arr=new Array(5);

        function addNum(num)
        {
                arr[i]=num;
                i++;
        }

        function display()
        {
                for(i=0;i<arr.length;i++)
                        document.writeln(arr[i]);
        }

        function sort()
        {
                document.writeln("<br> The original array is :");
                display();
                for(i=0;i<=(arr.length);i++)
                {
                        for(j=0;j<=(arr.length-i);j++)
                        {
                                if(arr[j]>arr[j+1])
                                {
                                        temp=arr[j];
                                        arr[j]=arr[j+1];
                                        arr[j+1]=temp;
                                }
                        }
                }

                document.writeln("<br> The sorted array is :");
                display();
        }

</script>

</head>

<body>

<form method="post" name="myform"  >

        Enter 5 elements in your array : <br><br>

        <input type="text" name="e1" value="" onChange="addNum(this.value)" required
/><br>
        <input type="text" name="e2" value="" onChange="addNum(this.value)" required
/><br>
        <input type="text" name="e2" value="" onChange="addNum(this.value)" required
/><br>
        <input type="text" name="e2" value="" onChange="addNum(this.value)" required
/><br>
        <input type="text" name="e2" value="" onChange="addNum(this.value)" required
/><br>

        <input type="button" value="SORT" onClick="sort()" />
</form>

</body>
</html>
```



Enter 5 elements in your array :

5
4
3
2
1

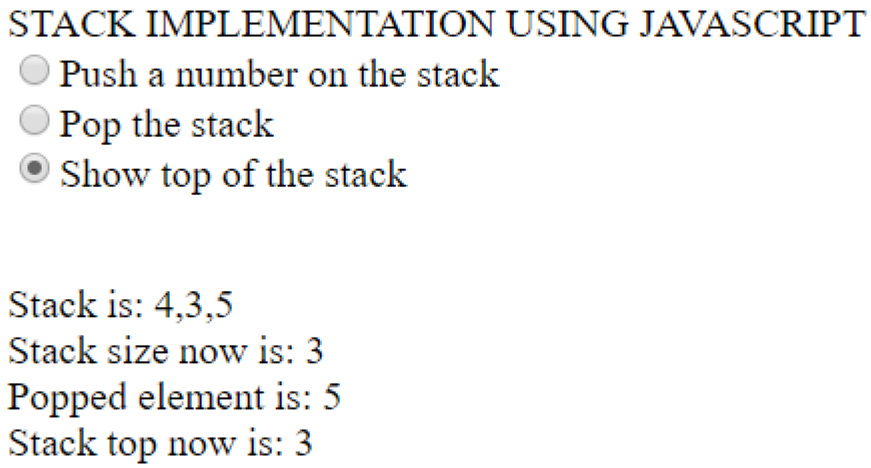


The original array is : 5 4 3 2 1
The sorted array is : 1 2 3 4 5

Q4. Write a JavaScript to implement stack methods (push and pop).

```
<html>
   <head>
      <title>Stack Example</title>
      <script>
         var stack = [];
         function add()
         {

            var num= eval(prompt("Enter a number", "a number"));
            var n = stack.push(num);
            document.getElementById("output").innerHTML =" <br/>Stack is: "+stack.join();
            document.getElementById("output").innerHTML +=" <br/> Stack size now is: "+n;
         }

         function remove()
         {

            var x= stack.pop();
```

```
                document.getElementById("output").innerHTML +=" <br/> Popped element is:
"+x;
            }
            function peek()
            {
                document.getElementById("output").innerHTML +=" <br/> Stack top now is:
"+stack[stack.length-1];
            }
        </script>
    </head>
    <body>
        <div>STACK IMPLEMENTATION USING JAVASCRIPT</div>
        <form name="myform" action="a2.html">
            <input type="radio" name="op" value="push" onclick="add()">Push a number on the
stack<br/>

            <input type="radio" name="op" value="pop" onclick="remove()">Pop the stack<br/>
            <input type="radio" name="op" value="peek" onclick="peek()">Show top of the
stack<br/>
        </form>
        <p id="output"></p>
    </body>
</html>
```



STACK IMPLEMENTATION USING JAVASCRIPT

○ Push a number on the stack

○ Pop the stack

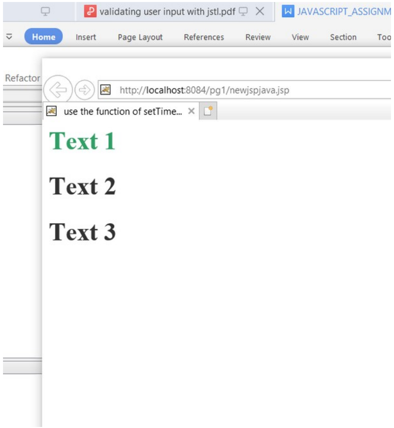
● Show top of the stack

```
Stack is: 4,3,5
Stack size now is: 3
Popped element is: 5
Stack top now is: 3
```

Q5. Write a JavaScript
a. to change the color of text using setTimeOut()
b. to move an image across screen using setInterval()

(a)

```
<html>

<head>

<title>use the function of setTimeOut</title>

</head>

<body>

   <h1 id="first">Text 1</h1>

  <h1 id="second">Text 2</h1>

   <h1 id="third">Text 3</h1>

</body>

<script>

     first();

   function first()

         {

               document.getElementById("third").style.color="#333";

           document.getElementById("first").style.color="#32A067";

           setTimeout(second,10000);}

       function second()

            {

                document.getElementById("first").style.color="#333";

                document.getElementById("second").style.color="#32A067";

                 setTimeout(third,15000);}
            function second()
           {
              document.getElementById("second").style.color="#333";
              document.getElementById("first").style.color="#32A067";
               setTimeout(first,18000);}
         </script>
</html>
```


validating user input with jstl.pdf
JAVASCRIPT_ASSIGNM
Home
Insert
Page Layout
References
Review
View
Section
Too
Refactor
http://localhost:8084/pg1/newjspjava.jsp
use the function of setTime...

Text 1

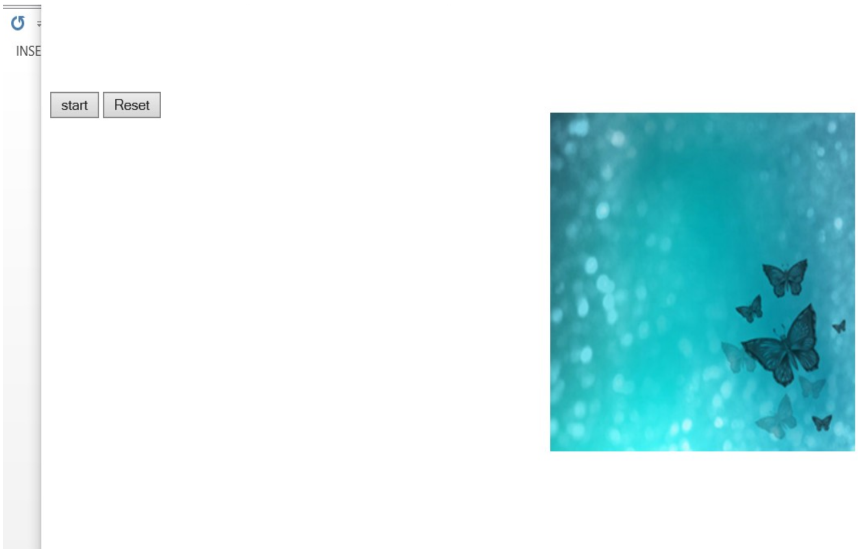
Text 2

Text 3

Ques-5(b)

```
<html>
       <head>
        <title>use of setInterval() function</title>
<body>
  <img src="C:\Users\Nikhil Sharma\Downloads\sample.jpg" id='11'
style="position:absolute;left:500; top: 100;">
<br> <br> <br> <br>
<input type=button onclick=timer() value='start'>
<input type=button onclick=reset1() value='Reset'>
<div id='msg'></div>
</body>
```

```
<script >

  function reset1()
   {     clearTimeout(my_time);
        document.getElementById('i1').style.left="500px";
       document.getElementById('i1').style.top="500px";
       document.getElementById("msg").innerHTML=" ";}

function move_img(str)
      {
           var x=document.getElementById('i1').offsetTop;
            x=x+100;
            document.getElementById('i1').style.top=x+"px";  }
function disp()
       {
             var step=1;
            var y=document.getElementById('i1).offsetTop;
            var  x=document.getElementById('i1).offsetLeft;
            if(y<600){y=y+step;
            document.getElementById('i1').style.top=y+"px";
      }
    else
        {
             if(x<800){x=x+step;
             document.getElementById('i1').style.left=x +"px"
         }
      }
    }
        function timer(){
              disp();
var y=document.getElementById('i1).offsetTop;
            var  x=document.getElementById('i1).offsetLeft;
            document.getElementById('msg').innerHTML="x:   "+  x + " y: "+y
            my_time=setTimeout('timer()',10);
        }
</body>
</html>
```



jsp

ques1

-Display the pattern

1

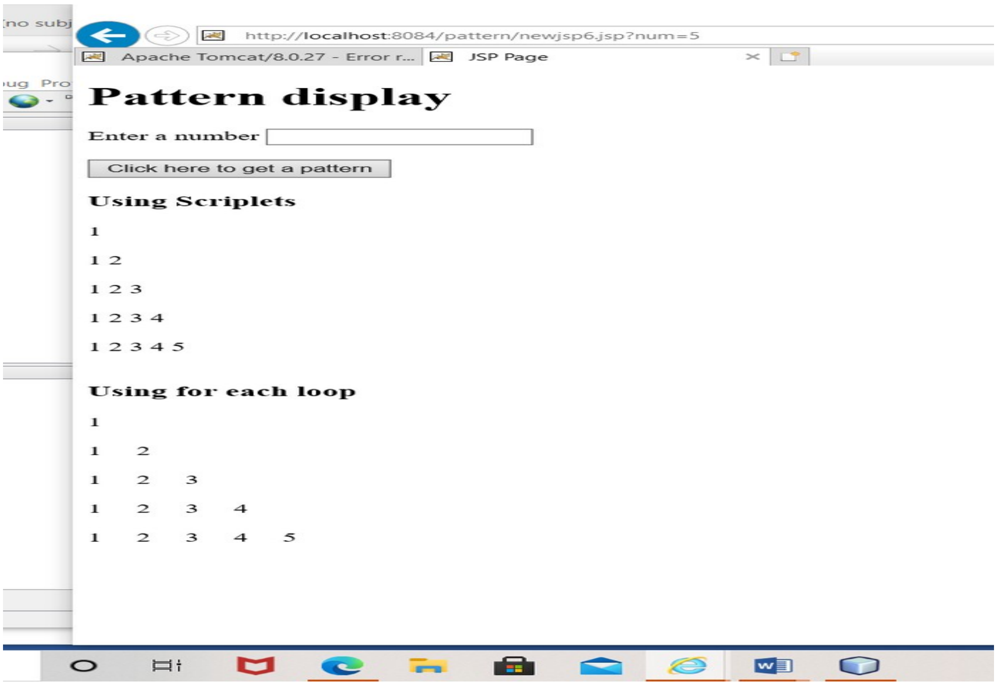
1 2

1 2 3

- **Using scriptlets**
- **Using <c:forEach>loop**

```
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
<%@page contentType="text/html" pageEncoding="UTF-8" language="java"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" >
        <title>JSP Page</title>
    </head>
    <body>
        <h1>Pattern display</h1>

        <form>
            Enter a number
            <input type="text" name="num" value=""/> <br> <br>

            <input type="submit" value="Click here to get a pattern"/><br>

            <h3> Using Scriplets </h3>

            <%
                String r=request.getParameter("num");
                if(r!=null && r!=""){
                    int n=Integer.parseInt(r);

                if(n>=1)
                {
```

```
          for(int i=1;i<=n;i++)
          {
            for(int j=1;j<=i;j++)
            {
              out.print(j + "&nbsp;");
            }

            out.print("<br> <br>");
          }
        }
       }
      %>

      <h3> Using for each loop </h3>
      <c:if test="${param.num != null}">
      <c:forEach var="x" begin="1" end="${param.num}">
           <c:forEach var="y" begin="1" end="${x}">
             <c:out value="${y}"/> &nbsp; &nbsp;
      </c:forEach>
             <br><br>

    </c:forEach>

    </c:if>
    </form>
  </body>
</html>
```


http://localhost:8084/pattern/newjsp6.jsp?num=5
Apache Tomcat/8.0.27 - Error r...
JSP Page
Click here to get a pattern

Pattern display

Enter a number

```
Using Scriplets
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5

Using for each loop
1
1    2
1    2    3
1    2    3    4
1    2    3    4    5
```

Ques-2 Make two files as follows :

a. **Main.html shows 2 text boxes and 3 radio buttons with values “addition” “subtraction” “multiplication”**
b. **Operate.jsp : depending on what the user selects perform the corresponding function.**

Main.html

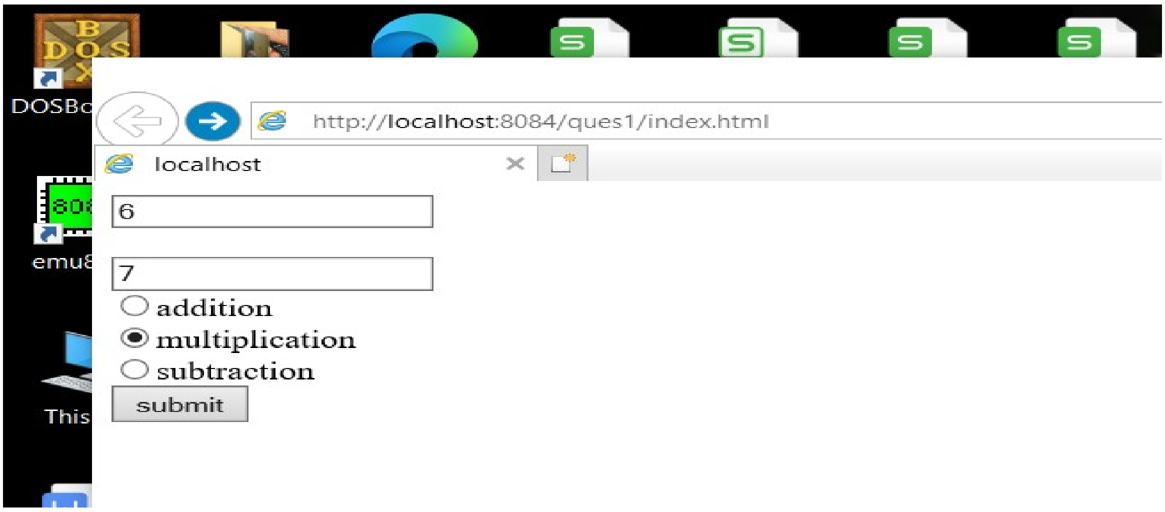
```
<html>
   <body>
      <form action="operate.jsp" method="post">
         <input name="text1" type="text" value=""><br/>
         <br/>
          <input name="text2" type="text" value=""><br/>
          <input name="radio1" type="radio" value="">addition<br/>
          <input name="radio2" type="radio" value="">multiplication<br/>
            <input name="radio3" type="radio" value="">subtraction<br/>
             <input  type="submit" value="submit">
   </form>
   </body>
</html>
```

Operat.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>

   <body>
      <%!String s1,s2,s3,s4,s5;%>
      <%! int add,mul,sub; %>
      <% s1=request.getParameter("text1");
      s2=request.getParameter("text2");
       s3=request.getParameter("radio1");
       s4=request.getParameter("radio2");

       s5=request.getParameter("radio3");%>



      <%
         try{
            if(s3!=null)
```

```
{
    out.println("addition is:");
    add=Integer.parseInt(s1)+Integer.parseInt(s2);
   out.println(add);

}
        else if(s4!=null)
{
    out.println("multilpication is:");
    mul=(Integer.parseInt(s1))*(Integer.parseInt(s2));
   out.println(mul);

}
        else if(s5!=null)
{
    out.println("subtraction is:");
    sub=(Integer.parseInt(s1))-(Integer.parseInt(s2));
   out.println(sub);

}
else{
    out.println("none");

        }
    }
    catch(NumberFormatException ex)
    {
```

```
              out.println("invalid");


           }


              %>


     </body>
  </html>
```



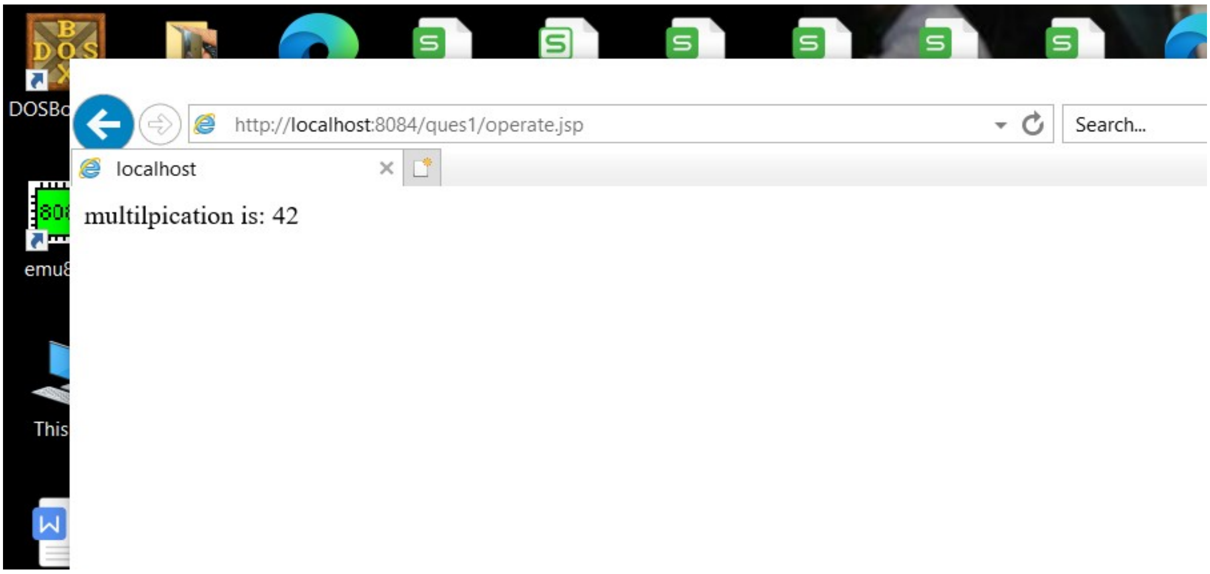
http://localhost:8084/ques1/index.html

localhost

6

7

○ addition
● multiplication
○ subtraction



multilpication is: 42

Ques-3 jsp

Validate user input entered In a form:-

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>

<%@taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core"  %>

<!DOCTYPE html>

<html>

<head>

<title>User Info Entry Form</title>

</head>

<body bgcolor="white">

<form action="newjsp1.jsp" method="post">

<input type="hidden" name="submitted" value="true">

<table>

 <c:if test="${param.submitted && empty param.userName}">

<tr><td></td>
```

```
<td colspan="2"><font color="red">
Please enter your Name
</font></td></tr>
</c:if>
<tr>
<td>Name:</td>
<td>
<input type="text" name="userName"
value="<c:out value="${param.userName}" />">
</td>
</tr>
<c:if test="${param.submitted && empty param.birthDate}">
<tr><td></td>
<td colspan="2"><font color="red">
Please enter your Birth Date
</font></td></tr>
</c:if>
<tr>
<td>Birth Date:</td>
<td>
<input type="text" name="birthDate"
value="<c:out value="${param.birthDate}" />">
</td>
<td>(Use format yyyy-mm-dd)</td>
</tr>
<c:if test="${param.submitted && empty param.emailAddr}">
```

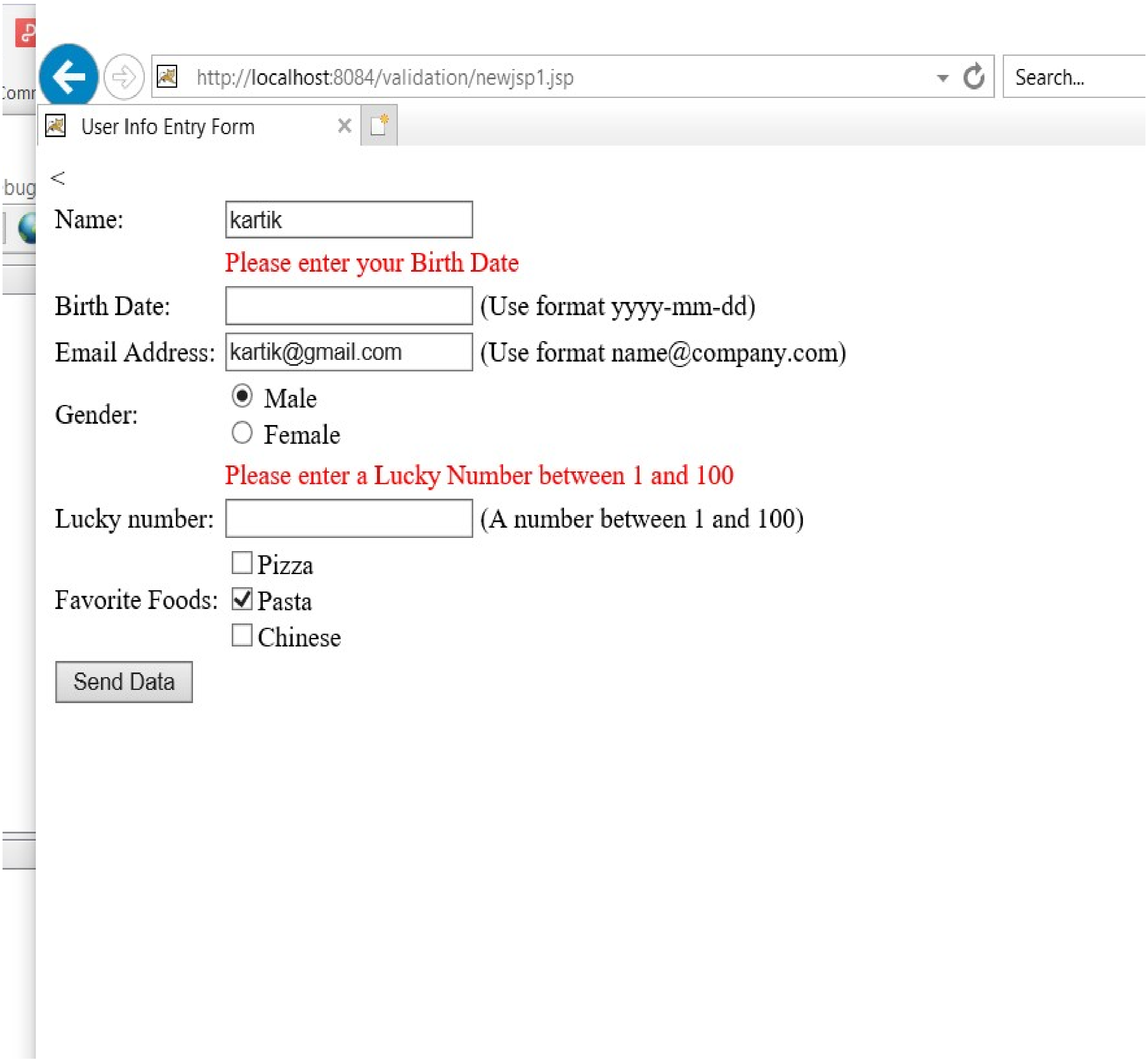
```
<tr><td></td>
<td colspan="2"><font color="red">
Please enter your Email Address
</font></td></tr>
</c:if>
<tr>
<td>Email Address:</td>
<td>
<input type="text" name="emailAddr"
value="<c:out value="${param.emailAddr}" />">
</td>
<td>(Use format name@company.com)</td>
</tr>
<c:if test="${param.submitted &&
param.gender != 'm' && param.gender != 'f'}">
<tr><td></td>
<td colspan="2"><font color="red">
Please select a valid Gender
</font></td></tr>
</c:if>
<tr>
<td>Gender:</td>
<td>
<c:choose>
<c:when test="${param.gender == 'f'}">
<input type="radio" name="gender" value="m">
```

```
Male<br>
<input type="radio" name="gender" value="f" checked>
Female
</c:when>
<c:when test="${param.gender == 'm'}">
<input type="radio" name="gender" value="m" checked>
Male<br>
<input type="radio" name="gender" value="f">
Female
</c:when>
<c:otherwise>
 <input type="radio" name="gender" value="m">
Male<br>
<input type="radio" name="gender" value="f">
Female
</c:otherwise>
</c:choose>
</td>
</tr>
<c:if test="${param.submitted &&
(param.luckyNumber < 1 || param.luckyNumber > 100)}">
<tr><td></td>
<td colspan="2"><font color="red">
Please enter a Lucky Number between 1 and 100
</font></td></tr>
</c:if>
```

```
<tr>
<td>Lucky number:</td>
<td>
<input type="text" name="luckyNumber"
value="<c:out value="${param.luckyNumber}" />">
</td>
<td>(A number between 1 and 100)</td>
</tr>
<c:forEach items="${paramValues.food}" var="current">
<c:choose>
<c:when test="${current == 'z'}">
<c:set var="pizzaSelected" value="true" />
<c:set var="foodValid" value="true" />
</c:when>
<c:when test="${current == 'p'}">
<c:set var="pastaSelected" value="true" />
<c:set var="foodValid" value="true" />
</c:when>
<c:when test="${current == 'c'}">
<c:set var="chineseSelected" value="true" />
<c:set var="foodValid" value="true" />
</c:when>
<c:otherwise>
<c:set var="foodValid" value="false" />
</c:otherwise>
</c:choose>
```

```
</c:forEach>

<c:if test="${param.submitted && !foodValid}">

<tr><td></td>

<td colspan="2"><font color="red">

Please select only valid Favorite Foods

</font></td></tr>

</c:if>

<tr>

<td>Favorite Foods:</td>

<td>

<input type="checkbox" name="food" value="z"

${pizzaSelected ? 'checked' : ''}>Pizza<br>

<input type="checkbox" name="food" value="p"

${pastaSelected ? 'checked' : ''}>Pasta<br>

<input type="checkbox" name="food" value="c"

${chineseSelected ? 'checked' : ''}>Chinese

</td>

</tr>

<tr>

<td colspan="3">

<input type="submit" value="Send Data">

</td>

</tr>

</table>

</form>

</body>
```

```
</html>
```



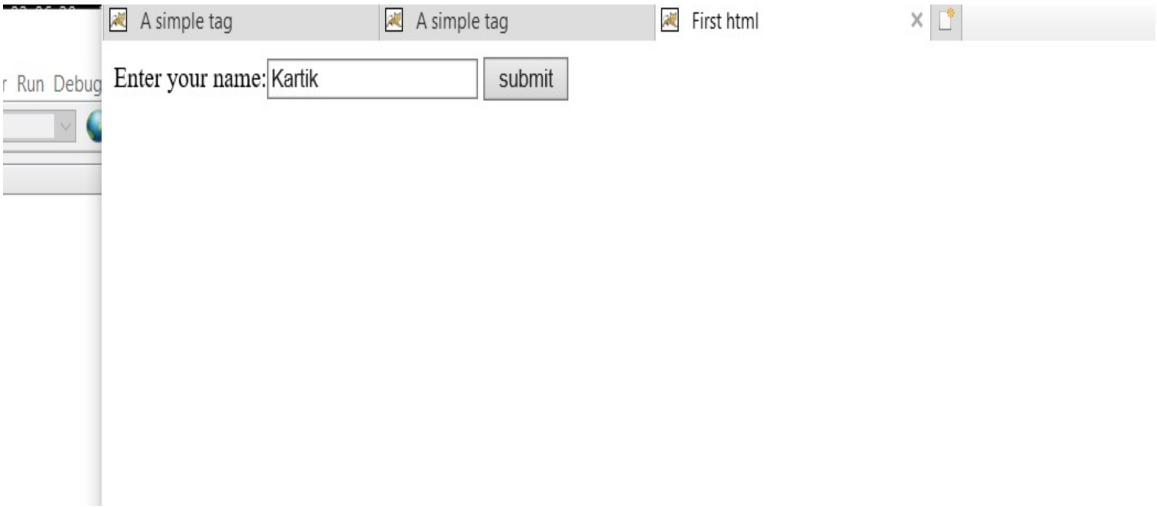
<

Name:	kartik	
	Please enter your Birth Date	
Birth Date:		(Use format yyyy-mm-dd)
Email Address:	kartik@gmail.com	(Use format name@company.com)
Gender:	● Male ○ Female	
	Please enter a Lucky Number between 1 and 100	
Lucky number:		(A number between 1 and 100)
Favorite Foods:	□ Pizza ☑ Pasta □ Chinese	

Ques-4

Display good morning <uname>,good afternoon <uname> or good evening <uname> based on the current time of the day

```
<html>
    <head>
        <title>First html</title>
        <meta charset="UTF-8">
        <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    </head>
    <body>
        <form action="index.jsp" method="post">
            Enter your name:<input type="text" name="name">
            <input type="submit" value="submit">
        </form>
    </body>
</html>
```



Enter your name: Kartik

Tld file

```
<?xml version="1.0" encoding="UTF-8"?>

<taglib version="2.1" xmlns="http://java.sun.com/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
http://java.sun.com/xml/ns/javaee/web-jsptaglibrary_2_1.xsd">

  <tlib-version>1.0</tlib-version>

  <jsp-version>2.0</jsp-version>

  <short-name>mytag</short-name>

  <uri>/tlds/mytag</uri>


  <tag>

      <name>uname</name>

      <tag-class>pk1.t1.timehandler</tag-class>

      <body-content>scriptless</body-content>

  </tag>



</taglib>
```

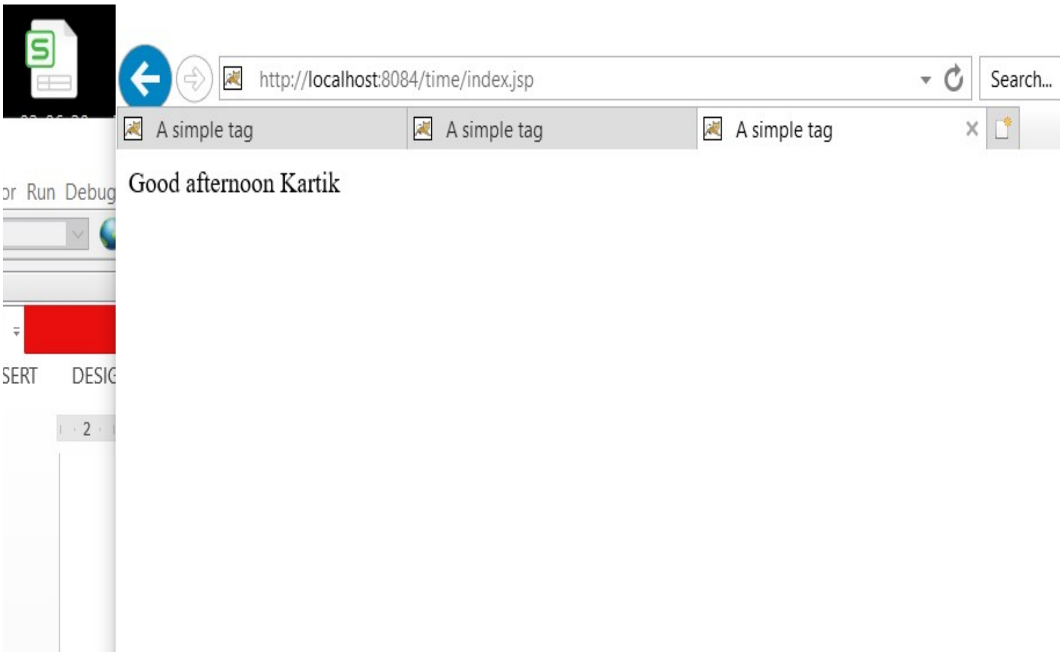
Timehandler.java

```
package pk1.t1;

import javax.servlet.jsp.*;

import javax.servlet.jsp.tagext.*;
import java.io.*;
import java.util.Date;



public class timehandler extends SimpleTagSupport {


    public void doTag() throws JspException,IOException{

            JspWriter out=getJspContext().getOut();
            try{
                Date dt=new Date();
                int hours=dt.getHours();
                int min=dt.getMinutes();

                if(hours<12)
                    out.println("Good morning");
                else if(hours>=12 && hours<=17)
                    out.println("Good afternoon");
                else if(hours >=17 && hours<=24)
                    out.println("Good evening");

            }

    catch(Exception e)
```

```
   {
       System.out.println(e);
   }

   }
}
```

Mytag.jsp

```
<%@taglib prefix="m" uri="/WEB-INF/tlds/mytag.tld"%>
<html>
    <head>
        <title>A simple tag</title>

    </head>
    <body>


        <m:uname/>
        <%=request.getParameter("name")%>
    </body>
</html>
```



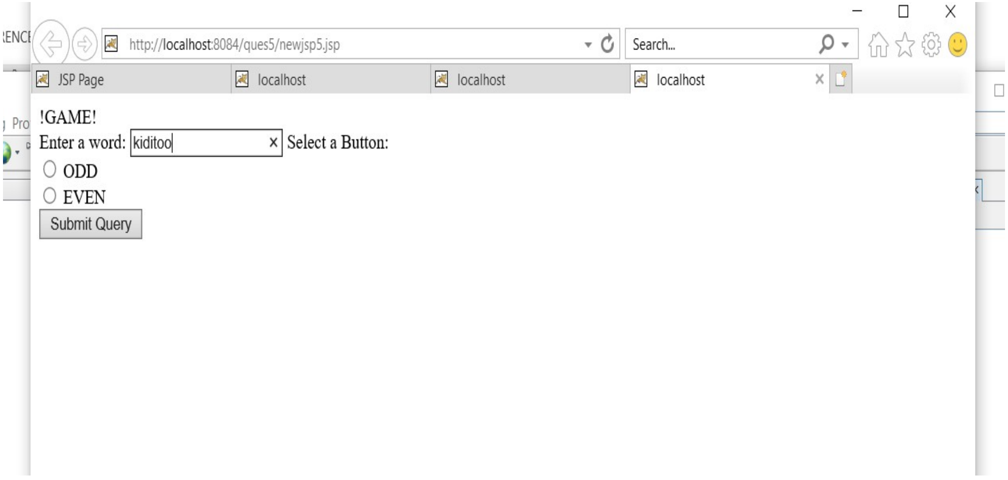
Good afternoon Kartik

Ques-5 **Let the user enter a word a in a textbox and let her/him select one of even or odd radio buttons. If she/he selects odd, check the odd positions in the word entered, if they all contain vowels, then display the message 'You win', else display 'You lose'. Similarly, if the user selects even, check for vowels in all even positions in the word entered. Use jstl's 'fn' library.**

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">

    </head>
    <body>
```

```
        <div>!GAME!</div>
        <form action="newjsp5.jsp" method="get">

            Enter a word: <input type="text" name="word" >


                    Select a Button:<BR/>
                    <input type="radio" name="oddeven" value="odd"/> ODD <BR/>
                    <input type="radio" name="oddeven" value="even"/> EVEN <BR/>
                <input type="submit"/><br/>
        </form>

        <%@taglib uri="http://java.sun.com/jsp/jstl/functions" prefix="fn" %>
        <%@taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>

        <c:set var="winflag" value="t"/>
        <c:set var="word" value="${param.word}"/>

        <c:if test = "${param.oddeven == 'odd'}">
            <c:forEach var="i" begin="0" end="${param.word.length()-2}" step="2">
                <c:choose>
                    <c:when test="${fn:substring(word,i,i+1)=='a' ||
fn:substring(word,i,i+1)=='e'&& fn:substring(word,i,i+1)=='i'||
fn:substring(word,i,i+1)=='o'|| fn:substring(word,i,i+1)=='u'}">
                        <c:set var = "winflag" value = 't'/>
                    </c:when>
                    <c:otherwise>
                        <c:set var = "winflag" value = 'f'/>
                        <c:set var = "i" value = "${param.word.length()}"/>
                    </c:otherwise>
                </c:choose>

            </c:forEach>
            <c:if test="${winflag == 't'}">
                <c:out value="You win in odd game! "/>
            </c:if>
            <c:if test="${winflag == 'f'}">
                <c:out value="You lose in odd game! "/>
            </c:if>
        </c:if>
        <c:if test = "${param.oddeven == 'even'}">
            <c:forEach var="i" begin="1" end="${param.word.length()-1}" step="2">
                <c:choose>
                    <c:when test="${fn:substring(word,i,i+1)=='a' ||
fn:substring(word,i,i+1)=='e'|| fn:substring(word,i,i+1)=='i'||
fn:substring(word,i,i+1)=='o'|| fn:substring(word,i,i+1)=='u'}">
                        <c:set var = "winflag" value = 't'/>
                    </c:when>
                    <c:otherwise>
                        <c:set var = "winflag" value = 'f'/>
                        <c:set var = "i" value = "${param.word.length()}"/>
                    </c:otherwise>
                </c:choose>
            </c:forEach>
            <c:if test="${winflag == 't'}">
            <c:out value="You win in even game! "/>
          </c:if>
          <c:if test="${winflag == 'f'}">
            <c:out value="You lose in even game! "/>
          </c:if>
        </c:if>
    </body>
</html>
```

Output-



http://localhost:8084/ques5/newjsp5.jsp

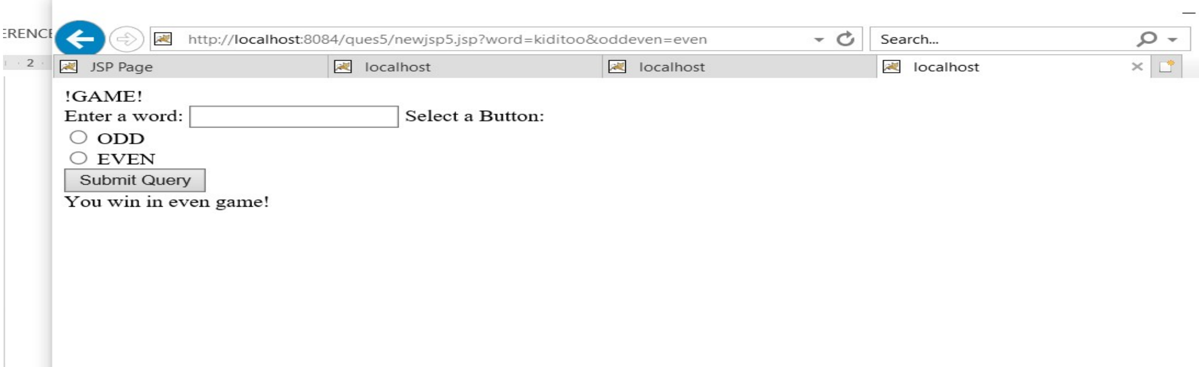
!GAME!

Enter a word: kiditoo Select a Button:

○ ODD

○ EVEN

Submit Query



http://localhost:8084/ques5/newjsp5.jsp?word=kiditoo&oddeven=even

!GAME!

Enter a word: Select a Button:

○ ODD

○ EVEN

Submit Query

You win in even game!

Ques-6 Create your custom tag library which contains two tags <hello> <choco>

Usage of the tags;

- **<hello name =”Ajay> output should be hello ajay . it contains a mandatory attribute ‘name’ which can accept dynamic value**
- **<choco texture=”crunchy”> output should be munch kitkat.**

Mychoco.tld

```
<?xml version="1.0" encoding="UTF-8"?>

<taglib version="2.1" xmlns="http://java.sun.com/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
http://java.sun.com/xml/ns/javaee/web-jsptaglibrary_2_1.xsd">

  <tlib-version>1.0</tlib-version>

  <short-name>mychoco</short-name>

  <jsp-version>2.0</jsp-version>


  <uri>/tlds/mychoco</uri>

   <tag>

      <name>Hello</name>

      <tag-class>mychoco.pkg.first</tag-class>

      <body-content>empty</body-content>

      <attribute>

          <name>name</name>

          <required>true</required>
      <type>String</type>
    </attribute>
  </tag>
  <tag>
    <name>choco</name>
    <tag-class>>mychoco.pkg.ChocoBean</tag-class>
    <body-content>empty</body-content>
    <attribute>
      <name>texture</name>
      <required>true</required>
      <type>String</type>
    </attribute>
  </tag>




</taglib>
```

Mychocobean.java

```
package mychoco.pkg;

import java.beans.*;
import java.io.Serializable;
import java.io.IOException;
import java.io.StringWriter;


import javax.servlet.jsp.*;
import javax.servlet.jsp.tagext.SimpleTagSupport;


public class ChocoBean extends SimpleTagSupport  implements Serializable {

     private String texture;

    public void setTexture(String texture) {
        this.texture = texture;
    }

    StringWriter sw=new StringWriter();

    public void doTag() throws JspException,IOException{
        JspWriter out=getJspContext().getOut();
        if(texture!=null){

            if(texture.equalsIgnoreCase("crunchy"))
            out.println("Fivestar,barbone");

            if(texture.equalsIgnoreCase("crunchy"))
            out.println("Fivestar,barbone");
        }
        if(texture==null)
            out.println("Attributr value not set");

            getJspBody().invoke(sw);
            getJspContext().getOut().println(sw.toString());


    }

}
```

First.java

```
package mychoco.pkg;
import javax.servlet.jsp.*;
import javax.servlet.jsp.tagext.*;
import java.io.*;
public class first extends SimpleTagSupport {

     private String name;

    public void setName(String name) {
        this.name = name;
    }
    StringWriter sw=new StringWriter();

    public void doTag() throws JspException,IOException{
        if(name!=null){
            JspWriter out=getJspContext().getOut();
            out.println("Hello"+name);
        }
        else
        {
            getJspBody().invoke(sw);
            getJspContext().getOut().println(sw.toString());
        }

    }

}
```

Newjspchoco.java

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@taglib prefix="exs" uri="/WEB-INF/tlds/mychoco.tld" %>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>

        <exs:Hello name="shivani"/>
        <exs:choco texture="chewy"/>
    </body>
</html>
```

Ques-7,ques-8 create a custom tag substring and reverese substring with 3 mandatory attributes “input”,”start”,”end” which will do substring operation on given input.and reverse with a mandatory attribute “input to reverse a string .

-Str.tld

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<taglib version="2.1" xmlns="http://java.sun.com/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
http://java.sun.com/xml/ns/javaee/web-jsptaglibrary_2_1.xsd">
  <tlib-version>1.0</tlib-version>
  <jsp-version>2.0</jsp-version>
  <short-name>str</short-name>
  <uri>/tlds/str</uri>


  <tag>
    <name>Substring</name>
    <tag-class>mystring1.mytags.Demo</tag-class>
    <attribute>
      <name>input</name>
      <required>true</required>
      <type>String</type>
    </attribute>

    <attribute>
      <name>start</name>
      <required>true</required>
      <type>int</type>
    </attribute>

    <attribute>
```

```
        <name>end</name>
        <required>true</required>
        <type>int</type>
      </attribute>
      <body-content>scriptless</body-content>
  </tag>

  <tag>
      <name>reverse</name>
      <tag-class>mystring1.mytags.Demo</tag-class>
      <attribute>
        <name>input</name>
        <required>true</required>
        <type>String</type>
      </attribute>
      <body-content>scriptless</body-content>

  </tag>
</taglib>
```

<u>Newjsp.jsp-</u>

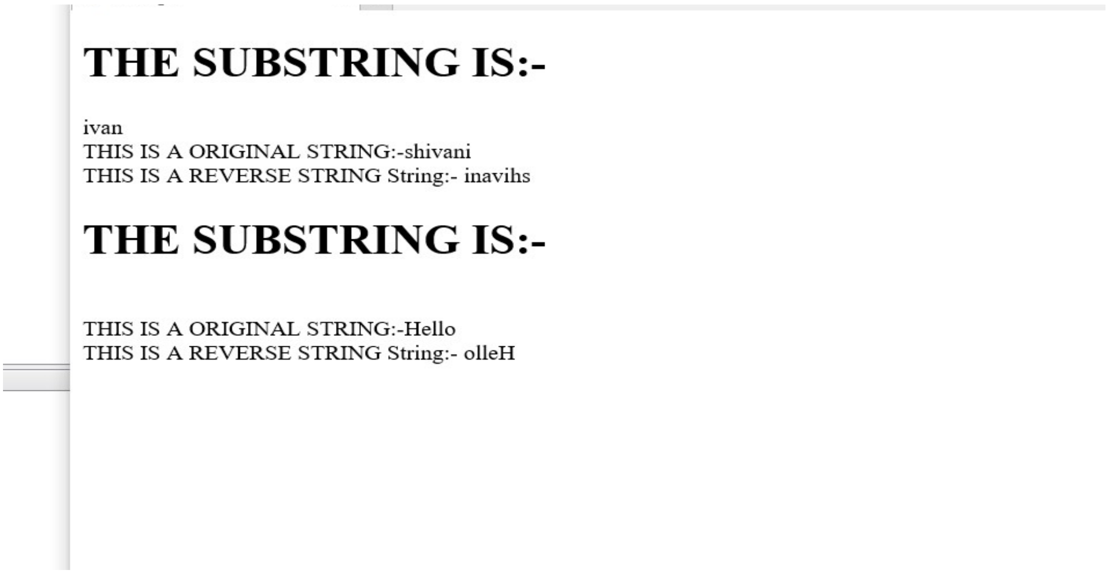
```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
```

```
<%@taglib prefix="exs" uri="/WEB-INF/tlds/str.tld" %>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html;
charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>
        <exs:Substring input="shivani" start='2' end='6'/>
        <exs:reverse input="Hello"/>
    </body>
</html>
```

Demo.java-

```
package mystring1.mytags;
import javax.servlet.jsp.*;
import javax.servlet.jsp.tagext.*;
import java.io.*;

public class Demo extends SimpleTagSupport{

      private int start;
       private int end;
```

```
    private String input;


public void setStart(int start) {
    this.start = start;
}

public void setEnd(int end) {
    this.end = end;
}

public void setInput(String input) {
    this.input = input;
}




public void doTag() throws JspException,IOException{

        JspWriter out=getJspContext().getOut();
        out.println("<h1>THE SUBSTRING IS:-</h1>");
        out.println(input.substring(start, end));
        out.println("</br>THIS IS A ORIGINAL STRING:-"+input);
        byte [] strasBytearray=input.getBytes();
        byte[] result=new byte[strasBytearray.length];
         out.println("</br>THIS IS A REVERSE STRING String:-");

        for(int i=0;i<strasBytearray.length;i++)
        {
            result[i]=strasBytearray[strasBytearray.length-i-1];


        }
         out.println(new String(result));
    }

}
```



THE SUBSTRING IS:-

```
ivan
THIS IS A ORIGINAL STRING:-shivani
THIS IS A REVERSE STRING String:- inavihs
```

THE SUBSTRING IS:-

```
THIS IS A ORIGINAL STRING:-Hello
THIS IS A REVERSE STRING String:- olleH
```

Ques-9 Create a custom tag “Today” that displays today’s date and time.

tld file

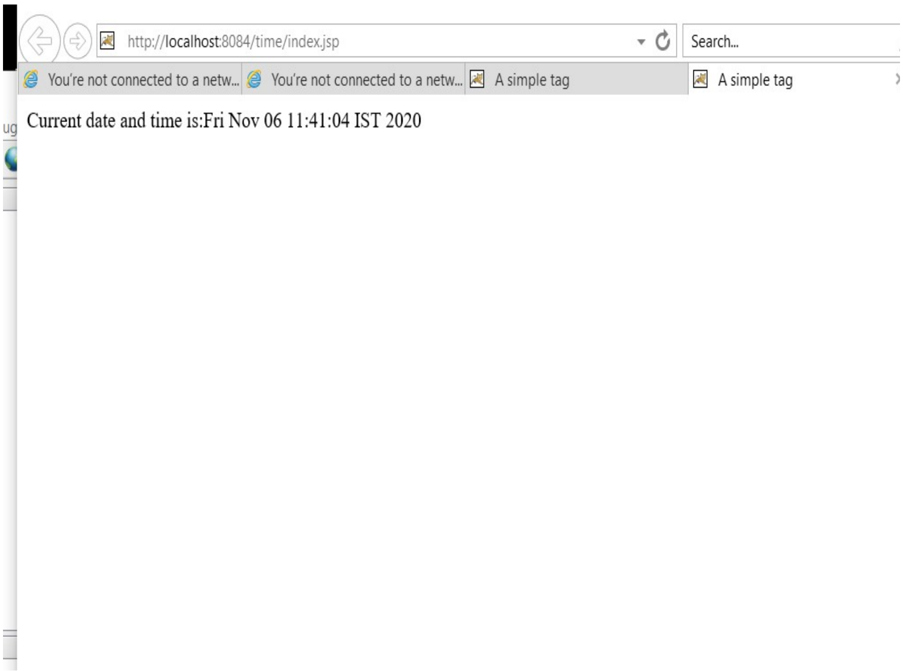
```
<?xml version="1.0" encoding="UTF-8"?>

<taglib version="2.1" xmlns="http://java.sun.com/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
http://java.sun.com/xml/ns/javaee/web-jsptaglibrary_2_1.xsd">

  <tlib-version>1.0</tlib-version>

  <jsp-version>2.0</jsp-version>

  <short-name>mytag</short-name>

  <uri>/tlds/mytag</uri>


  <tag>

      <name>Today</name>

      <tag-class>pk1.t1.timehandler</tag-class>
      <body-content>empty</body-content>
  </tag>


</taglib>
```

taghandler file

```
package pk1.t1;
import javax.servlet.jsp.*;
import javax.servlet.jsp.tagext.*;
import java.io.*;
import java.util.Calendar;



public class timehandler extends SimpleTagSupport {



   public void doTag() throws JspException,IOException{

          JspWriter out=getJspContext().getOut();
          out.println(Calendar.getInstance().getTime());
       }

   }
```

Jsp file

```
<%@taglib prefix="m" uri="/WEB-INF/tlds/mytag.tld"%>

<html>

   <head>

      <title>A simple tag</title>


   </head>

   <body>


      Current date and time is:<m:Today/>

   </body>

</html>
```



http://localhost:8084/time/index.jsp
Search...
You're not connected to a netw...
You're not connected to a netw...
A simple tag
A simple tag

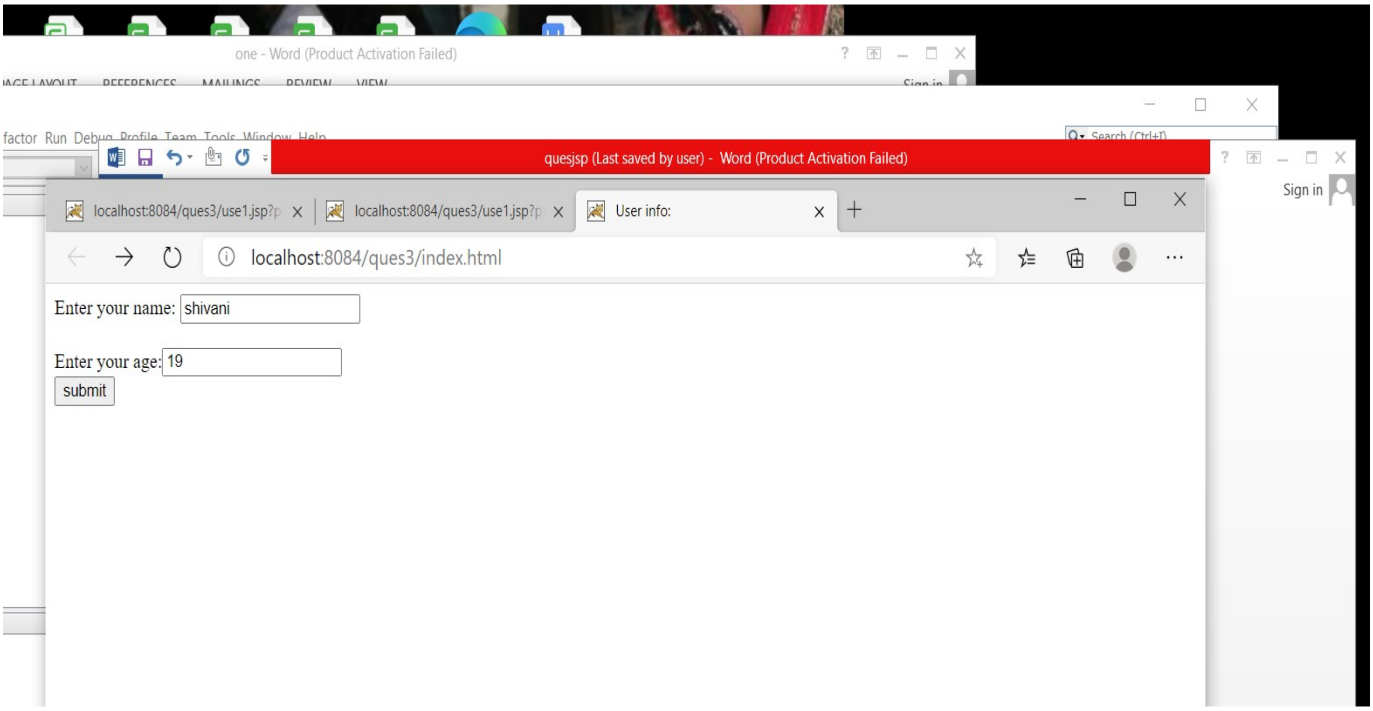
Current date and time is:Fri Nov 06 11:41:04 IST 2020

Ques-10 Ask a user's name and age on a HTML form.Then display Hello <uname> on a jsp .on the same page ask the product the user would like to buy . Then redirect to another Jsp which would display: Hello <uname> ,you have entered <product>.

Main.html

```
<html>
   <head>
      <title>
         User info:
      </title>
   </head>

   <body>
      <form action="use2.jsp" method="get">
```

```
          Enter your name: <input name="uname" type="text" value=""><br/>

           <br/>

            Enter your age:<input name="uage" type="text" value=""><br/>

            <input  type="submit" value="submit"><br/>

           <br/>

         </form>

      </body>

</html>
```



one - Word (Product Activation Failed)
quesjsp (Last saved by user) - Word (Product Activation Failed)
localhost:8084/ques3/use1.jsp?p
localhost:8084/ques3/use1.jsp?p
User info:
localhost:8084/ques3/index.html
Sign in

Enter your name: shivani

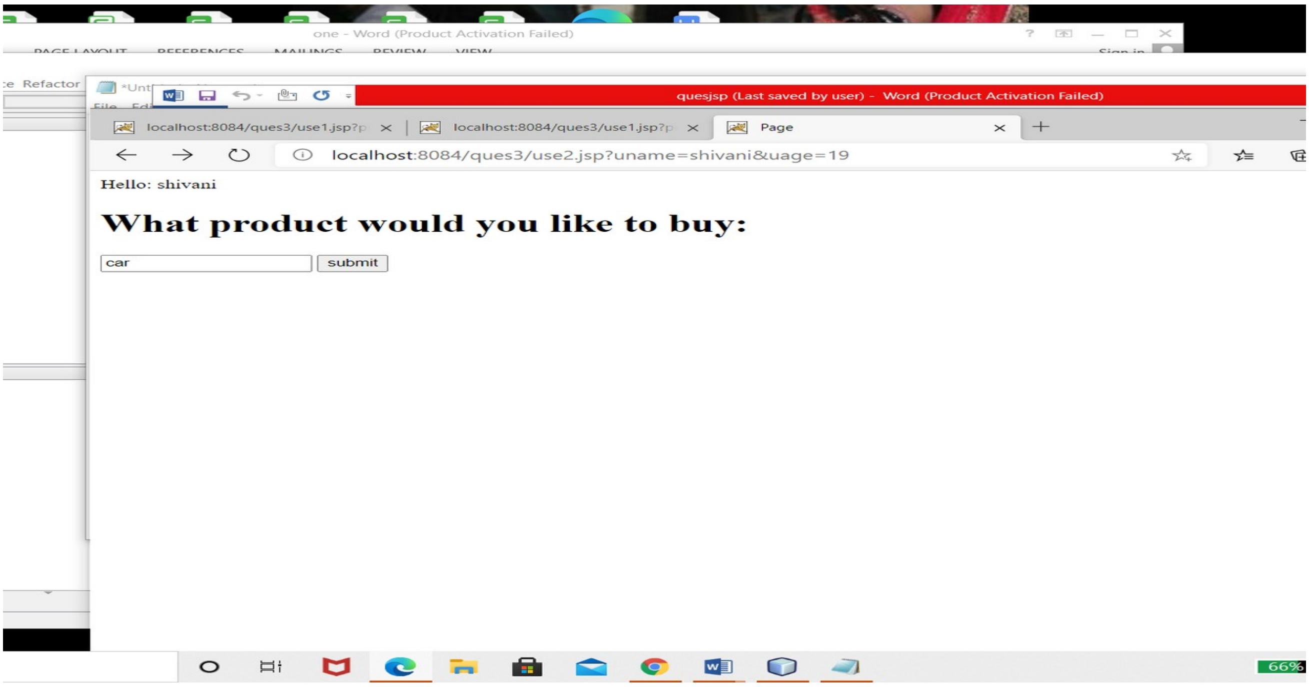
Enter your age: 19

submit

Use1.jsp

```
%@page contentType="text/html" pageEncoding="UTF-8"%>

<html>

    <head>

        <title> Page</title>

    </head>

    <body>
```

```
        Hello:
        <%=request.getParameter("uname")%>
        <h1>What product would you like to buy:</h1>
        <form action="use1.jsp">
        <input type="test" name="pro">
        <input type="submit" value="submit">
    </form>

    </body>
</html>
```



one - Word (Product Activation Failed)
quesjsp (Last saved by user) - Word (Product Activation Failed)
localhost:8084/ques3/use1.jsp?p
localhost:8084/ques3/use1.jsp?p
Page
66%

localhost:8084/ques3/use2.jsp?uname=shivani&uage=19

Hello: shivani

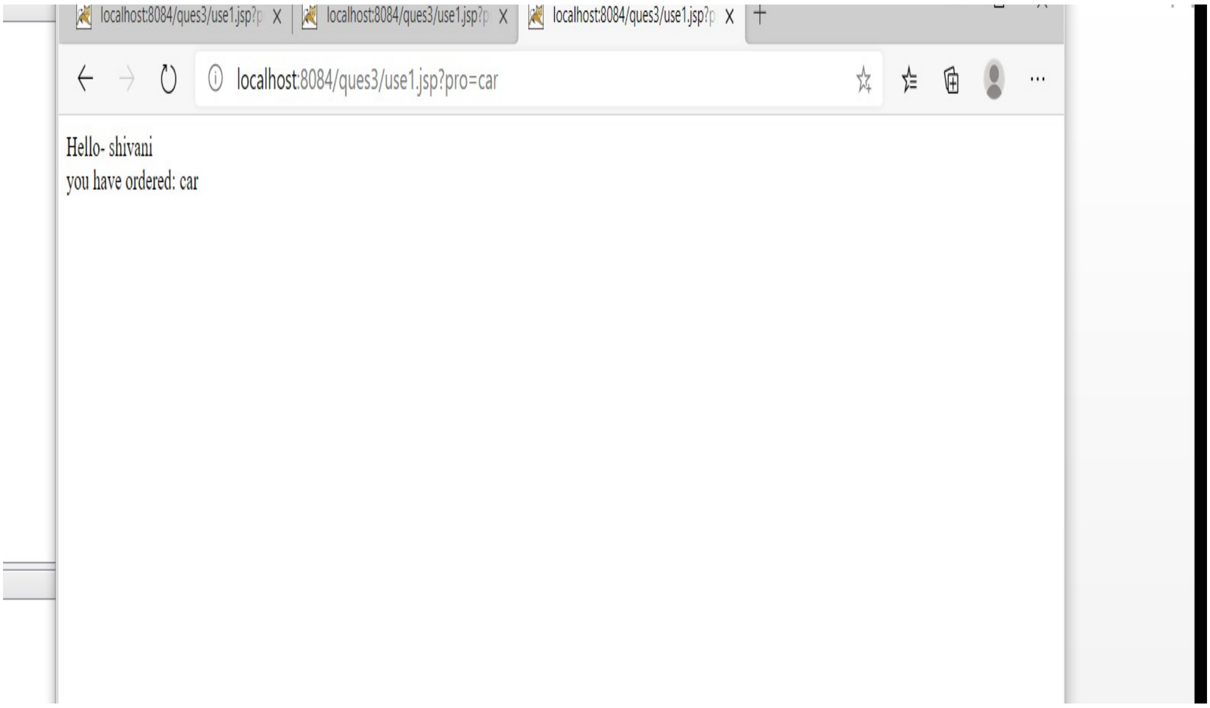
What product would you like to buy:

car [submit]

Use2.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>

    <body>
      <jsp:useBean id="user" scope="page" class="pk1.use.USER"/>
      <jsp:setProperty name="user" property="uname" value="shivani"
```

```
           />
      Hello- <jsp:getProperty name="user" property="uname" />
      <br/>
         you have ordered: <%=request.getParameter("pro")%>


    </body>
</html>
```



localhost:8084/ques3/use1.jsp?p
localhost:8084/ques3/use1.jsp?p
localhost:8084/ques3/use1.jsp?p
localhost:8084/ques3/use1.jsp?pro=car

```
Hello- shivani
you have ordered: car
```