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DA-2
CSE1007

Q1)

The steps to implement a servlet are as follows :-

i) Create a directory structure :-

The directory structure defines where to put different types of files so that the web-container may get the information and respond to requests.

ii) Create a Servlet :-

We can create by 3 methods :-

a) Servlet interface

b) GenericServlet class.

c) HttpServlet class.

iii) Compile the servlet using javac and put it inside classes folder of web-inf.

iv) Create a deployment descriptor
(web.xml) file with the servlet
name and its mapping.

v) Start the server and deploy
the Servlet.

Q2.

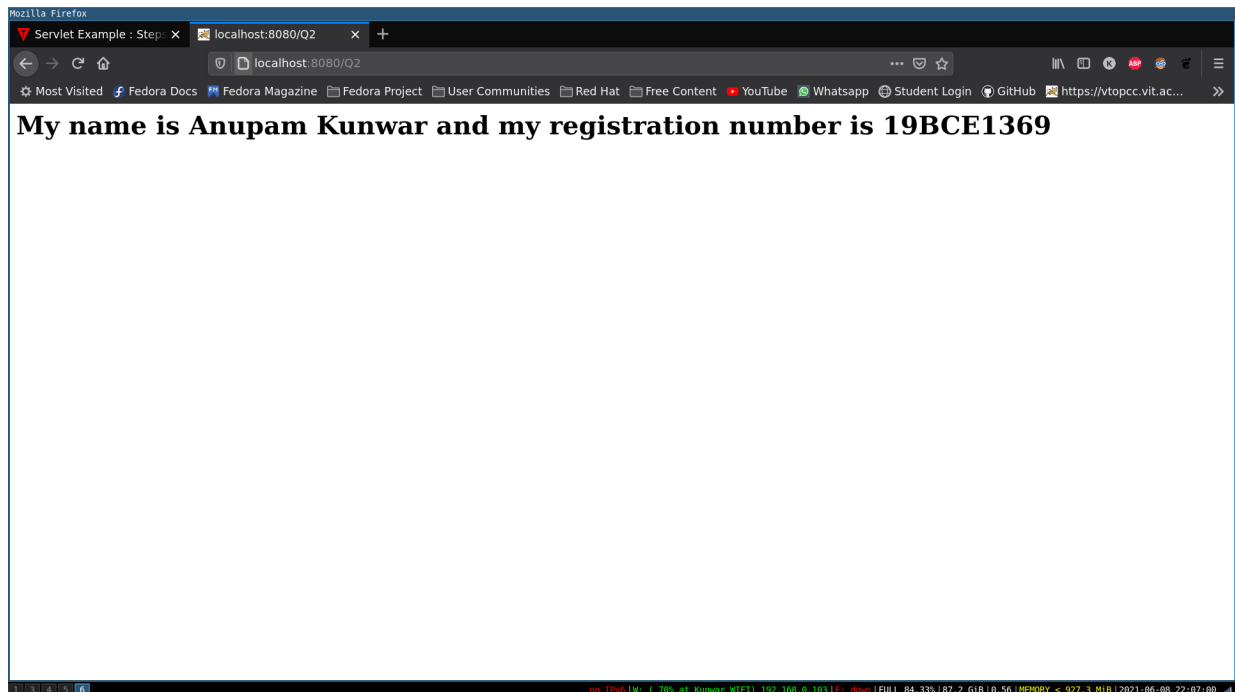
Develop a servlet that prints the message “My name is <<yourname>> and my registration number is <<your reg number>>” on the web browser.

Solution :

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class Q2 extends HttpServlet {
    private String message;
    public void init() throws ServletException {
        message = "My name is Anupam Kunwar and my registration number is 19BCE1369";
    }
    public void doGet(HttpServletRequest request, HttpServletResponse response) throws
        ServletException, IOException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println("<h1>" + message + "</h1>");
    }
    public void destroy() {
    }
}
```

Output :



Q3.

Develop a servlet for a simple banking transaction. Read the account number, MPIN and the choice of transaction (deposit or withdraw). Check the validity. if account number and MPIN is valid (which has to validated against the stored data in a database), send redirect to the HTML page which inputs the amount to be deposited or withdrawn and update the balance accordingly, otherwise post back to the current page with appropriate error message. (create a table having account number, name, mpin, and current balance fields in it.)

Solution :

bank.html

```
<!DOCTYPE html>
<html>

<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>

<body>
<form action="bank" method="post">
Enter account Number<input type="text" name="acc"><br>
Enter MPIN<input type="text" name="mpin"><br>
Choose deposit or withdraw money :<input type="radio" name="mode" value="deposit">Deposit
&nbsp;
<input type="radio" name="mode" value="withdraw">Withdraw<br>
<input type="submit" value="Submit">
</form>
</body>

</html>
```

bank.java

```
import java.util.Scanner;
import java.sql.*;
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.*;
import javax.servlet.http.*;

public class bank extends HttpServlet{
private static final long serialVersionUID = 1L;
static final String DB_URL = "jdbc:mysql://localhost/bankdb";
```

```

static final String USER = "root";
static final String PASS = "Anup@mII09";
public void doPost(HttpServletRequest req, HttpServletResponse resp) throws ServletException,
IOException{
    resp.setContentType("text/html");
    PrintWriter out = resp.getWriter();
    try{
        Class.forName("com.mysql.cj.jdbc.Driver");
        Connection conn = DriverManager.getConnection(DB_URL, USER, PASS);
        Statement stmt = conn.createStatement();
        String acc = req.getParameter("acc");
        int mpin = Integer.parseInt((req.getParameter("mpin")));
        String mode = req.getParameter("mode");
        String sql = "select * from customeraccount where accNo="+acc;
        ResultSet rs = stmt.executeQuery(sql);
        if(rs.next()){
            int m = rs.getInt("mpin");
            if(mpin==m){
                if(mode.equals("deposit")){
                    resp.sendRedirect("deposit.html");
                }
                if(mode.equals("withdraw")){
                    resp.sendRedirect("withdraw.html");
                }
            }
            else{
                out.println("Mpin does not match");
            }
        }
        else{
            out.println("Account number not found");
        }
        rs.close();
        stmt.close();
        conn.close();
    }
    catch (SQLException e) {
        out.println("<h2>" + e + "</h2>\n");
    }
    catch (Exception e) {
        out.println("<h2>" + e + "</h2>");
    }
}

```

deposit.html

```
<!DOCTYPE html>
<html>

<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>

<body>
<form action="bank1" method="post">
Enter ammount : <input type="text" name="amount"><br>
<input type="submit" value="Submit">
</form>
</body>

</html>
```

bank1.java

```
import java.util.Scanner;
import java.sql.*;
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.*;
import javax.servlet.http.*;

public class bank1 extends HttpServlet{
private static final long serialVersionUID = 1L;
static final String DB_URL = "jdbc:mysql://localhost/bankdb";
static final String USER = "root";
static final String PASS = "Anup@mII09";
public void doPost(HttpServletRequest req, HttpServletResponse resp) throws ServletException,
IOException{
resp.setContentType("text/html");
PrintWriter out = resp.getWriter();
try{
Class.forName("com.mysql.cj.jdbc.Driver");
Connection conn = DriverManager.getConnection(DB_URL, USER, PASS);
Statement stmt = conn.createStatement();
int amount = Integer.parseInt(req.getParameter("amount"));
ResultSet rs = stmt.executeQuery("select amount from customeraccount where accNo=2344");
rs.next();
int a = rs.getInt("amount");
```

```

a = a + amount;
stmt.executeUpdate("update customeraccount set amount="+a+" where accNo=2344");
rs.close();
stmt.close();
conn.close();
}
catch (SQLException e) {
out.println("<h2>" + e + "</h2>\n");
}
catch (Exception e) {
out.println("<h2>" + e + "</h2>");
}
}
}
}

```

withdraw.html

```

<!DOCTYPE html>
<html>

<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>

<body>
<form action="bank2" method="post">
Enter ammount : <input type="text" name="amount"><br>
<input type="submit" value="Submit">
</form>
</body>

</html>

```

bank2.java

```

import java.util.Scanner;
import java.sql.*;
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.*;
import javax.servlet.http.*;

public class bank2 extends HttpServlet{

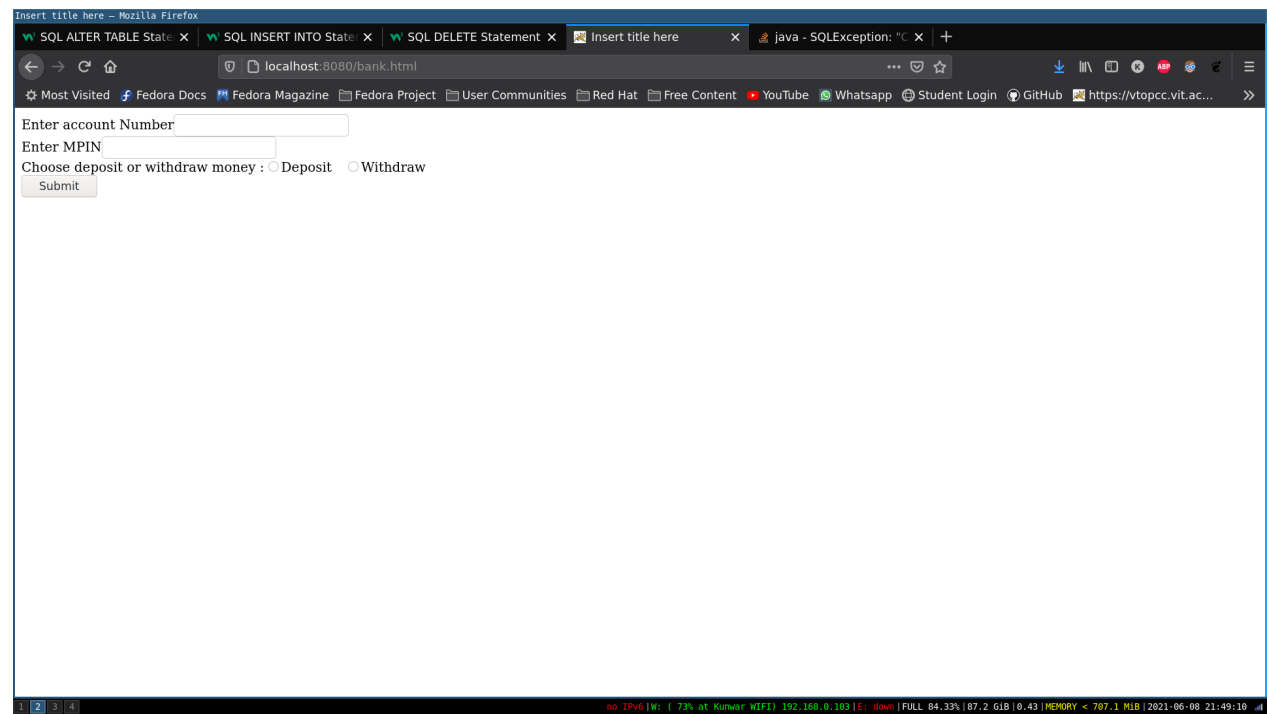
```

```

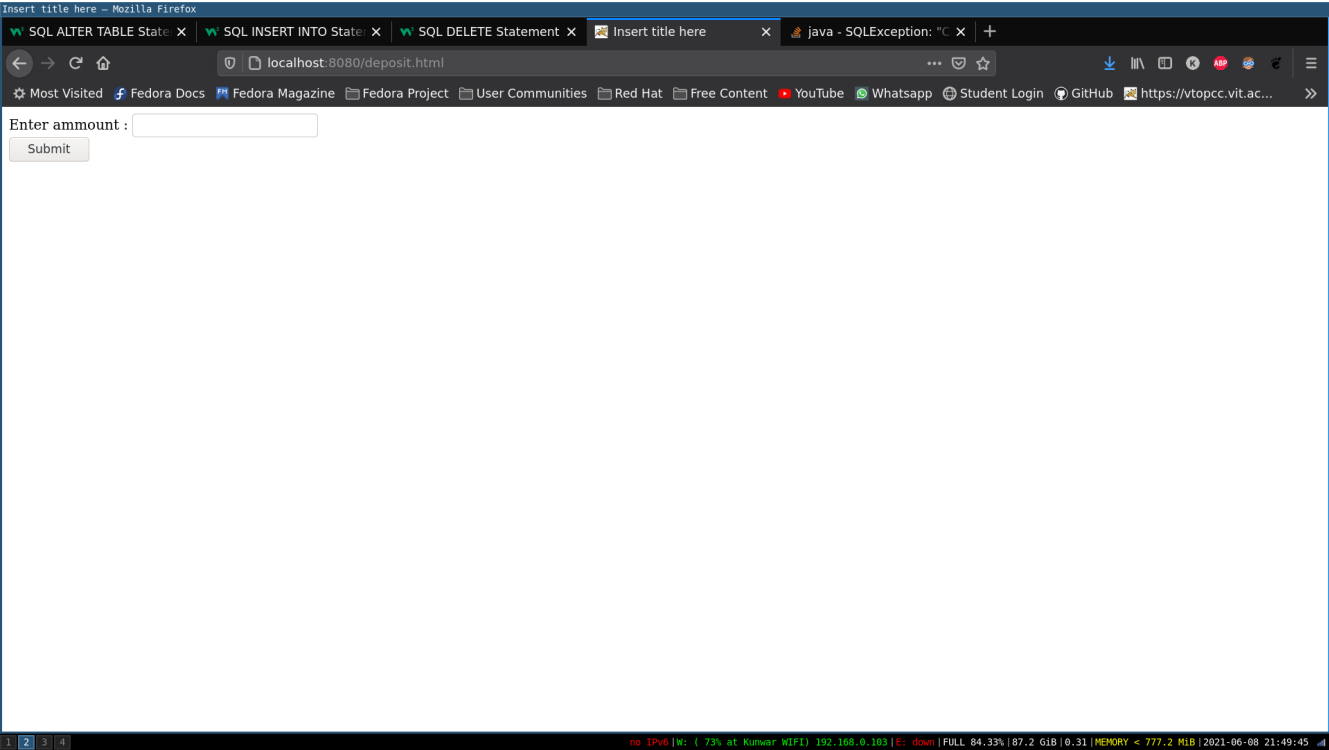
private static final long serialVersionUID = 1L;
static final String DB_URL = "jdbc:mysql://localhost/bankdb";
static final String USER = "root";
static final String PASS = "Anup@mIIO9";
public void doPost(HttpServletRequest req, HttpServletResponse resp) throws ServletException,
IOException{
    resp.setContentType("text/html");
    PrintWriter out = resp.getWriter();
    try{
        Class.forName("com.mysql.cj.jdbc.Driver");
        Connection conn = DriverManager.getConnection(DB_URL, USER, PASS);
        Statement stmt = conn.createStatement();
        int amount = Integer.parseInt(req.getParameter("amount"));
        ResultSet rs = stmt.executeQuery("select amount from customeraccount where accNo=2344");
        rs.next();
        int a = rs.getInt("amount");
        a = a - amount;
        stmt.executeUpdate("update customeraccount set amount="+a+" where accNo=2344");
        rs.close();
        stmt.close();
        conn.close();
    }
    catch (SQLException e) {
        out.println("<h2>" + e + "</h2>\n");
    }
    catch (Exception e) {
        out.println("<h2>" + e + "</h2>");
    }
}
}
}

```


Output :



.



.

Insert title here - Mozilla Firefox

SQL ALTER TABLE State x SQL INSERT INTO State x SQL DELETE Statement x Insert title here x java - SQLException: "C x +

localhost:8080/bank.html

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Enter account Number 2344

Enter MPIN 12345

Choose deposit or withdraw money : ☐ Deposit ☒ Withdraw

Submit

no [IPv6] W: (73% at Kumar WIFI) 192.168.0.103 [E: down] FULL 84.33% 87.2 GiB | 0.57 | MEMORY < 786.2 MiB | 2021-06-08 21:50:20

```
mysql> select * from customeraccount;
```

```
+-----+-----+-----+-----+
| id    | accNo | mpin  | amount |
+-----+-----+-----+-----+
| 1     | 2344  | 12345 | 4000   |
+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

```
mysql> select * from customeraccount;
```

```
+-----+-----+-----+-----+
| id    | accNo | mpin  | amount |
+-----+-----+-----+-----+
| 1     | 2344  | 12345 | 5000   |
+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

```
mysql> select * from customeraccount;
```

```
+-----+-----+-----+-----+
| id    | accNo | mpin  | amount |
+-----+-----+-----+-----+
| 1     | 2344  | 12345 | 3000   |
+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

```
mysql> 
```

1 2 3 4

Q4. Assume we have four pdf files for the BTech-1 result, BTech-2 result, BTech-3 and BTech-4 result respectively. Develop a Servlet which displays the appropriate PDF file to the client, by looking at a request parameter for the year (1, 2, 3 or 4). (use response.sendRedirect() method)

Solution :

da2Q4.html

```
<!DOCTYPE html>
<html>
<body>
<form action = "Da2Q4">
Enter Name : <input type="number" name="page"><br>
<input type="Submit">
</form>
</body>
</html>
```

Da2Q4.java

```
import java.io.IOException;

import javax.servlet.http.*;

public class Da2Q4 extends HttpServlet {
private static final long serialVersionUID = 1L;
public void service(HttpServletRequest req, HttpServletResponse res) throws IOException {
String page = req.getParameter("page");
res.setContentType("application/pdf");
res.sendRedirect(page+".pdf");
}
}
```

Output :

