

Assignment -2

IBM CLOUD DB2

Assignment Date	29 SEPTEMBER 2022
Student Name	SURYA NARAYAN M S
Student Roll Number	1905147
Maximum Marks	2 Marks

Questions:

1. Create User table with user with email, username, roll number, password.

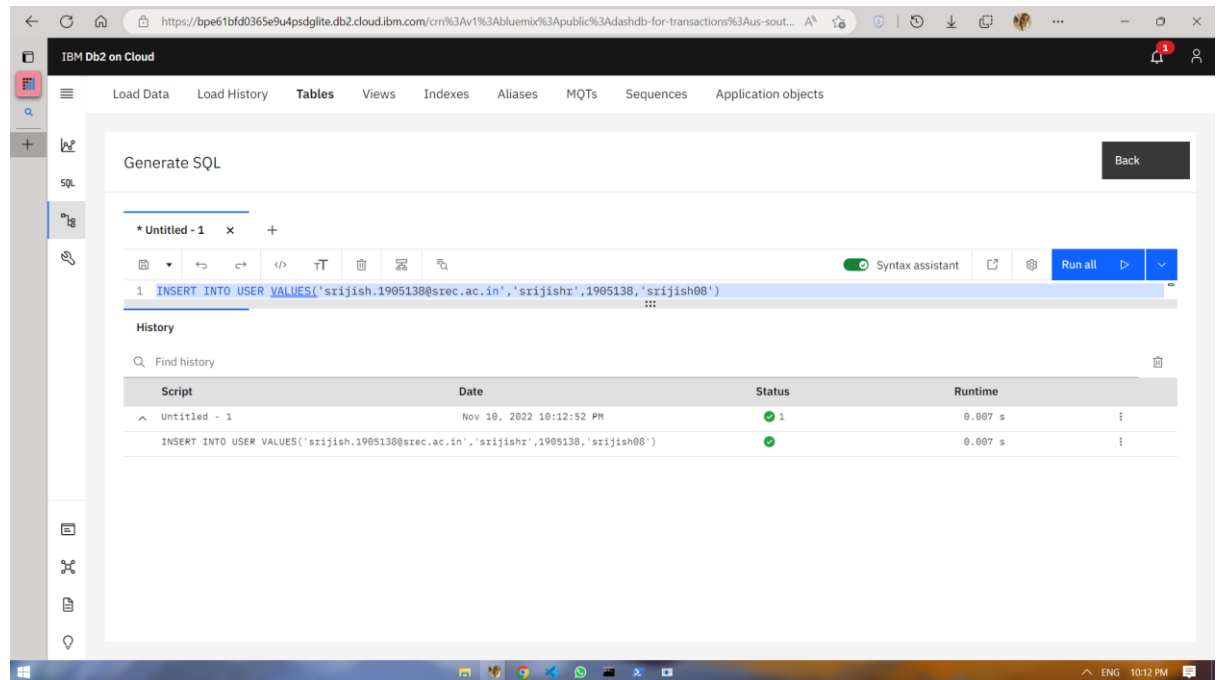
The screenshot shows the IBM Db2 on Cloud web interface. The 'Tables' tab is selected, displaying a list of tables. A table named 'USER' is listed under the schema 'DRQ17778'. The 'Table definition' panel on the right shows the structure of the 'USER' table:

Name	Data type	Nullable	Length	Scale
EMAIL	CHAR	Y	100	0
USERNAME	CHAR	Y	100	0
ROLLNUMBER	INTEGER	Y		0
PASSWORD	VARCHAR	Y	32	0

The screenshot shows the IBM Db2 on Cloud web interface. The 'Table definition' panel for the 'USER' table is displayed, showing the table structure. Below the table definition, there is a message: "There is no data here yet".

2. Perform UPDATE, DELETE Queries with user table.

UPDATE TABLE:-



IBM Db2 on Cloud

Load Data Load History **Tables** Views Indexes Aliases MQTs Sequences Application objects

Generate SQL Back

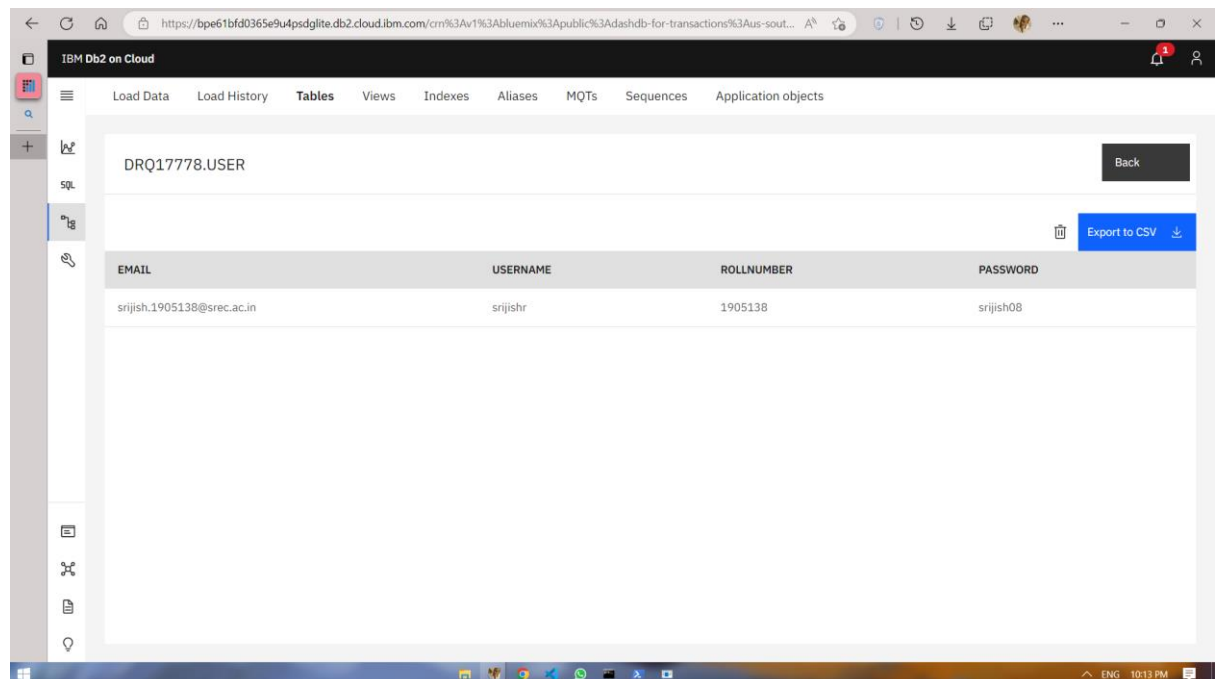
*Untitled - 1 x +

1 `INSERT INTO USER VALUES('srijish.1905138@srec.ac.in','srijishr',1905138,'srijish08')`

History

Find history

Script	Date	Status	Runtime
Untitled - 1	Nov 10, 2022 10:12:52 PM	1	0.007 s
INSERT INTO USER VALUES('srijish.1905138@srec.ac.in','srijishr',1905138,'srijish08')			0.007 s



IBM Db2 on Cloud

Load Data Load History **Tables** Views Indexes Aliases MQTs Sequences Application objects

DRQ17778.USER Back

Export to CSV

EMAIL	USERNAME	ROLLNUMBER	PASSWORD
srijish.1905138@srec.ac.in	srijishr	1905138	srijish08

DELETE TABLE:-

The screenshot shows the IBM Db2 on Cloud interface. The top navigation bar includes 'Load Data', 'Load History', 'Tables', 'Views', 'Indexes', 'Aliases', 'MQTs', 'Sequences', and 'Application objects'. The 'Tables' tab is selected, and the table 'DRQ17778.USER' is displayed. A 'Back' button is in the top right. Below the table name, there is an 'Export to CSV' button. The table structure is as follows:

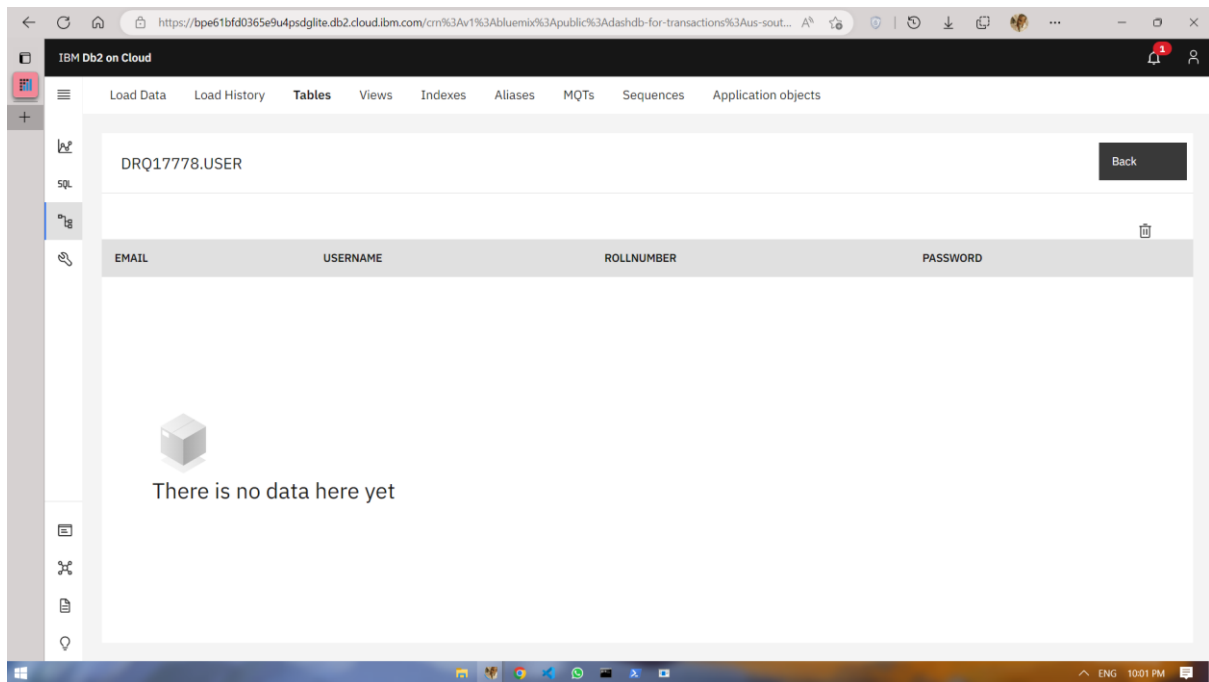
EMAIL	USERNAME	ROLLNUMBER	PASSWORD
srijish.1905138@srec.ac.in	srijishr	1905138	srijish08

The screenshot shows the 'Generate SQL' screen in the IBM Db2 on Cloud interface. The top navigation bar is the same as the previous screenshot. The 'Generate SQL' screen has a 'Back' button in the top right. Below the title, there is a tab labeled '*Untitled - 1'. The SQL editor contains the following code:

```
1 DELETE FROM USER WHERE ROLLNUMBER = 1905138;
```

Below the editor, there is a 'History' section with a search bar 'Find history'. The history table is as follows:

Script	Date	Status	Runtime
Untitled - 1	Nov 10, 2022 10:14:35 PM	1	0.006 s
DELETE FROM USER WHERE ROLLNUMBER = 1905138			



3. Connect python code to db2.

NOTE: - Question 4 contains Question 3 answer

4. Create a flask app with registration page, login page and welcome page. By default load the registration page once the user enters all the fields store the data in database and navigate to login page authenticate user username and password. If the user is valid show the welcome page

Answers

App.py

```

1 from flask import Flask, render_template, request, redirect, url_for, session
2 import ibm_db
3 import re
4
5 app = Flask(__name__)
6
7 app.secret_key = 'a'
8
9 conn = ibm_db.connect("DATABASE=#;HOSTNAME=#;PORT=#;USERNAME=#;PASSWORD=#;SECURITY=SSL;SSLSERVERCERTIFICATE=DiglCertGlobalRootCA.crt;", "", "")
10
11 @app.route('/', methods=['GET', 'POST'])
12 def register():
13     msg = ''
14     if request.method == 'POST':
15         username = request.form['username']
16         email = request.form['email']
17         password = request.form['password']
18         sql = "SELECT * FROM users WHERE username =?"
19         stmt = ibm_db.prepare(conn, sql)
20         ibm_db.bind_param(stmt, 1, username)
21         ibm_db.execute(stmt)
22         account = ibm_db.fetch_assoc(stmt)
23         print(account)
24         if account:
25             msg = 'Account already exists !'
26         elif not re.match(r'([a-z0-9]+)@([a-z0-9]+)\.[a-z]{2,4}', email):
27             msg = 'Invalid email address !'
28         elif not re.match(r'[A-Za-z0-9]+', username):
29             msg = 'name must contain only characters and numbers !'
30         else:
31             insert_sql = "INSERT INTO users VALUES (?, ?, ?)"
32             prep_stmt = ibm_db.prepare(conn, insert_sql)
33             ibm_db.bind_param(prepare_stmt, 1, username)
34             ibm_db.bind_param(prepare_stmt, 2, email)
35             ibm_db.bind_param(prepare_stmt, 3, password)
36             ibm_db.execute(prepare_stmt)
37             msg = 'You have successfully registered !'
38         elif request.method == 'POST':
39             msg = 'Please fill out the form !'
40         return render_template('register.html', msg=msg)
41
42
43 @app.route('/login', methods=['GET', 'POST'])
44 def login():
45     global userid
46     msg = ''
47

```

```
File Edit Selection View Go Run Terminal Help
app.py - SRC - Visual Studio Code [Administrator]

14
15
16 msg = "Account already exists !"
17 elif re.match("[0-9]{4,10}@.*", email):
18     msg = "Invalid email address !"
19 elif not re.match("[A-Za-z0-9]{4,10}", username):
20     msg = "Name must contain only characters and numbers !"
21 else:
22     insert_sql = "INSERT INTO users VALUES (?, ?, ?)"
23     prep_stmt = db.cursor().prepare(insert_sql)
24     db.cursor().bind_param(prepare_stmt, 1, email)
25     db.cursor().bind_param(prepare_stmt, 2, username)
26     db.cursor().bind_param(prepare_stmt, 3, rollnumber)
27     db.cursor().bind_param(prepare_stmt, 4, password)
28     db.cursor().execute(prepare_stmt)
29     msg = "You have successfully registered !"
30
31 if request.method == "POST":
32     msg = "Please fill out the form !"
33     return render_template("register.html", msg=msg)
34
35 @app.route("/login", methods=['GET', 'POST'])
36 def login():
37     global sessid
38     msg = ""
39
40 if request.method == "POST":
41     username = request.form['username']
42     password = request.form['password']
43     sql = "SELECT * FROM users WHERE username = ? AND password = ?"
44     stmt = db.cursor().prepare(sql)
45     db.cursor().bind_param(stmt, 1, username)
46     db.cursor().bind_param(stmt, 2, password)
47     db.cursor().execute(stmt)
48     account = db.cursor().fetch_one(stmt)
49     print(account)
50     if account:
51         session['loggedin'] = True
52         sessid = account['SESSIONID']
53         session['username'] = account['USERNAME']
54         msg = "logged in successfully !"
55     else:
56         msg = "Incorrect username / password !"
57     return render_template("login.html", msg=msg)
58
59 if __name__ == '__main__':
60     app.run(host='0.0.0.0')
```

Register.html

```
File Edit Selection View Go Run Terminal Help
register.html - SRC - Visual Studio Code [Administrator]

1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4 <meta charset="UTF-8">
5 <meta http-equiv="X-UA-Compatible" content="IE=edge">
6 <meta name="viewport" content="width=device-width, initial-scale=1.0">
7 <title>Smart Fashion Recommender</title>
8 <!-- bootstrap css cdn -->
9 <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css"
10 integrity="sha384-JcKb8q3iqJ61gV9Y940Pw6n8MzYTzB+w60P69Grnp64pBVU60439Pn/eng6x" crossorigin="anonymous">
11 <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.css">
12 <!-- css stylesheet -->
13 <link rel="stylesheet" href="/static/css/style.css">
14 <!-- font styles cdn -->
15 <link rel="preconnect" href="https://fonts.gstatic.com">
16 <link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap" rel="stylesheet">
17 <link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@400&display=swap" rel="stylesheet">
18 </head>
19
20 <body>
21 <div class="login text-center mt-5">
22
23 <form action="/" method="post">
24 <h2 class="form-text-h2"> Register </h2>
25 <br>
26 <label class="label" for="email">Email</label>
27 <input type="email" class="form-control" name="email" placeholder="Enter Your Email ID" id="email" required>
28 <label class="label" for="username">Username</label>
29 <input type="text" class="form-control" name="username" placeholder="Enter Your Username" id="username" required minlength="6">
30 <label class="label" for="rollnumber">Roll number</label>
31 <input type="number" class="form-control" name="rollnumber" placeholder="Enter Your Roll Number" id="rollnumber" required>
32 <label class="label" for="password">Password</label>
33 <input type="password" class="form-control" name="password" placeholder="Enter Your Password" id="password" required minlength="6">
34 <br>
35 <br>
36 <button style="background-color: white;color:black;border-color:#dcdcdc" type="submit" id="button" class="btn btn-primary"> Register </button>
37 <div class="note mt-3 text-center">
38 <p> Already have an account? <a href="/login">Click here to Login </a> </p>
39 </div>
40 </form>
41 </div>
42 </body>
43 </html>
```

Login.html

```
login.html - SRC - Visual Studio Code [Administrator]
File Edit Selection View Go Run Terminal Help
login.html X register.html homepage.html app.py style.css style2.css style3.css
templates > login.html
1 <!DOCTYPE html>
2 <html lang="en">
3
4 <head>
5   <meta charset="UTF-8">
6   <meta http-equiv="X-UA-Compatible" content="IE=edge">
7   <meta name="viewport" content="width=device-width, initial-scale=1.0">
8   <title>Smart Fashion Recommender</title>
9   <!-- favicon -->
10  <!-- <link rel="shortcut icon" href="/assets/img/favicon.ico" type="image/x-icon" -->
11  <!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon" -->
12  <link rel="icon" type="image/png" sizes="16x16" href="/assets/img/favicon-32x32.png">
13  <!-- bootstrap css cdn -->
14  <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css"
15    integrity="sha384-JcKb8231kMcI9wiOsm4H570I9Wu719d71ZQ4p4282xq63fRCUlb3I16e7RFz" crossorigin="anonymous">
16  <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.css">
17  <!-- css stylesheet -->
18  <link rel="stylesheet" href="/static/css/style2.css">
19  <!-- font styles cdn -->
20  <link rel="preconnect" href="https://fonts.gstatic.com">
21  <link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap" rel="stylesheet">
22  <link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=swap" rel="stylesheet">
23 </head>
24 <body>
25   <div class="login text-center mt-5">
26     <form action="/login" method="post">
27       <h2 class="form-text-h2">Login</h2>
28       <br>
29       <div class="form-group mb-3">
30         <label class="label" for="username">Username</label>
31         <input type="text" class="form-control" placeholder="Username" name="username" required minlength="6">
32       </div>
33       <div class="form-group mb-3">
34         <label class="label" for="password">Password</label>
35         <input type="password" class="form-control" placeholder="Password" name="password" required minlength="6">
36       </div>
37       <div>
38         <button style="background-color: white;color:black;border-color:#dcdddc" type="submit" id="button" class="btn btn-primary"> login </button>
39       </div>
40       <div class="note mt-3 text-center">
41         <br>
42         <p> Don't have an account ? <a href="/"/>Click here to register </a> </p>
43       </div>
44     </form>
45   </div>
46 </body>
47 </html>
```

Style.css

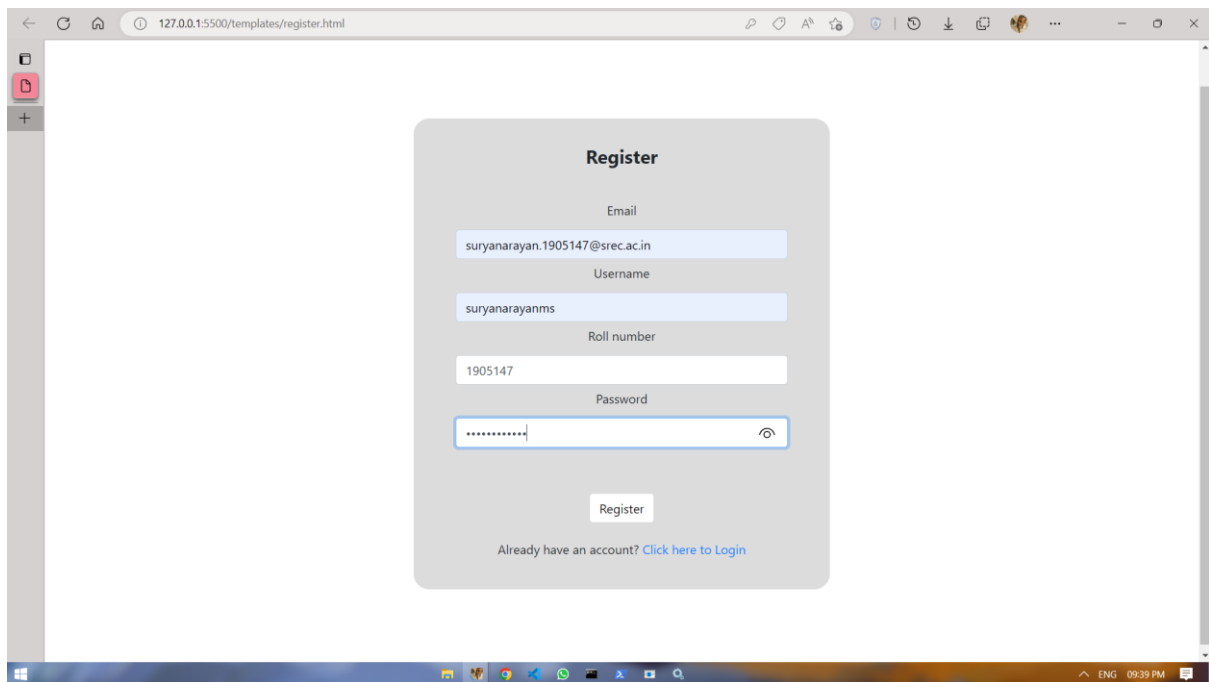
```
style.css - SRC - Visual Studio Code [Administrator]
File Edit Selection View Go Run Terminal Help
login.html X register.html homepage.html app.py style.css X style2.css style3.css
static > css > # style.css > # form
1 {
2   margin: 0;
3   padding: 0;
4 }
5
6
7
8 body {
9   background-color: #e0e0e0;
10  display: flex;
11  flex-direction: column;
12  align-items: center;
13  justify-content: center;
14 }
15
16 form {
17  display: flex;
18  flex-direction: column;
19  align-items: center;
20  justify-content: center;
21  background-color: #dcdddc;
22  width: 400px;
23  height: 200px;
24  border-radius: 20px;
25  margin: 10px;
26  gap: 10px;
27 }
28
29 h2 {
30  font-size: large;
31  font-weight: bold;
32 }
33
34 input {
35  width: 80% !important;
36 }
37
38 div {
39  display: flex;
40  align-items: center;
41  justify-content: center;
42  flex-direction: column;
43  width: 80%;
44 }
45
46 .form-text-h2 {
47  font-size: small;
48  padding-bottom: 10px;
49 }
50
51 .form-text-h2 {
52  font-size: x-large;
53  padding-top: 10px;
54 }
```

```
File Edit Selection View Go Run Terminal Help style2.css - SRC - Visual Studio Code [Administrator]
style2.css x style3.css
static?css> # style2.css > body
1 {
2   margin: 0;
3   padding: 0;
4 }
5
6
7 body {
8   background-color: #white;
9   display: flex;
10  flex-direction: column;
11  align-items: center;
12  justify-content: center;
13 }
14
15 form {
16   display: flex;
17   flex-direction: column;
18   align-items: center;
19   justify-content: center;
20   background-color: #f0f0f0;
21   width: 400px;
22   height: 500px;
23   border-radius: 20px;
24   margin: 100px;
25   gap: 10px;
26 }
27
28
29 h2 {
30   font-size: larger;
31   font-weight: bolder;
32 }
33
34 input {
35   width: 80% !important;
36 }
37
38 div {
39   display: flex;
40
41   align-items: center;
42   justify-content: center;
43   flex-direction: column;
44   width: 80%;
45 }
46
47 .form-text-vk {
48   font-size: small;
49   padding-bottom: 10px;
50 }
51
52 .form-text-h2 {
53   font-size: x-large;
54   padding-top: 10px;
55 }
```

```
File Edit Selection View Go Run Terminal Help style3.css - SRC - Visual Studio Code [Administrator]
style3.css x
static?css> # style3.css > body
1 {
2   margin: 0;
3   padding: 0;
4 }
5
6
7 body {
8   background-color: #white;
9   display: flex;
10  flex-direction: column;
11  align-items: center;
12  justify-content: center;
13 }
14
15 form {
16   display: flex;
17   flex-direction: column;
18   align-items: center;
19   justify-content: center;
20   background-color: #f0f0f0; /*
21   width: 400px;
22   height: 500px;
23   border-radius: 20px;
24   margin: 100px;
25   gap: 10px;
26 }
27
28
29 h2 {
30   font-size: larger;
31   font-weight: bolder;
32 }
33
34 input {
35   width: 80% !important;
36 }
37
38 div {
39   display: flex;
40
41   align-items: center;
42   justify-content: center;
43   flex-direction: column;
44   width: 80%;
45 }
46
47 .form-text-vk {
48   font-size: small;
49   padding-bottom: 10px;
50 }
51
52 .form-text-h2 {
53   font-size: x-large;
54   padding-top: 10px;
55 }
```

Output:-

Registration page:-

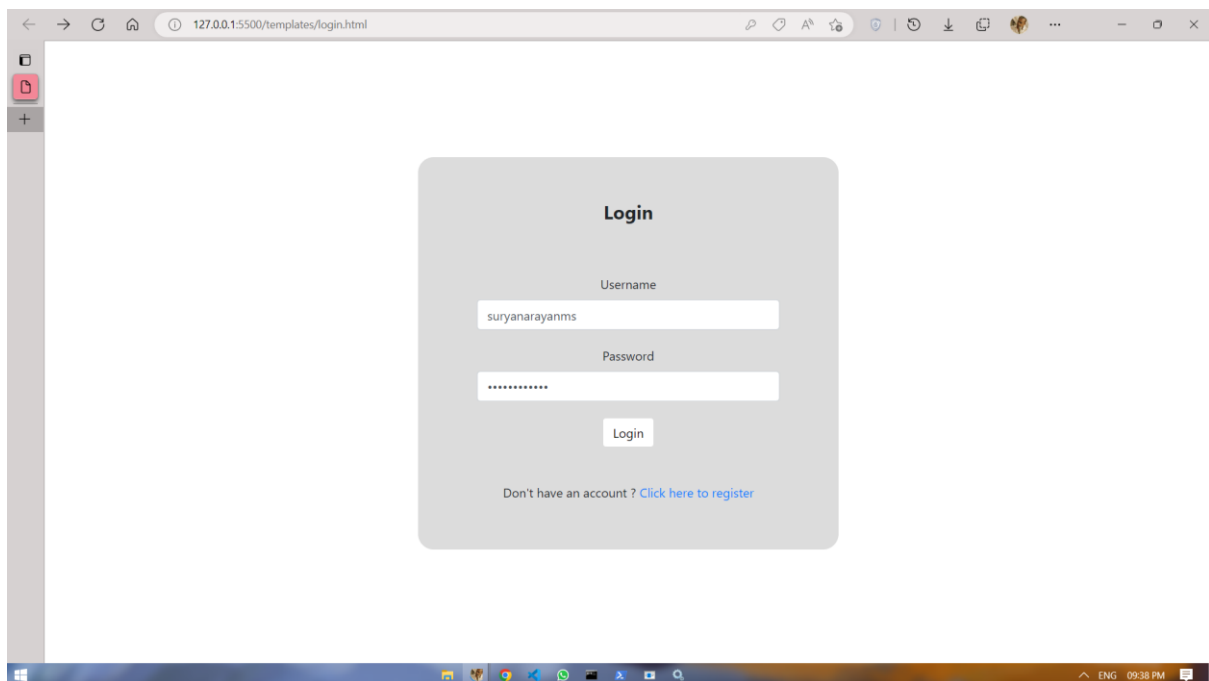


The screenshot shows a web browser window with the address bar displaying "127.0.0.1:5500/templates/register.html". The browser interface includes standard navigation buttons (back, forward, refresh, home) and a tab bar. The main content area displays a registration form titled "Register" in a light gray box. The form contains the following fields and elements:

- Email:** A text input field containing "suryanarayan.1905147@srec.ac.in".
- Username:** A text input field containing "suryanarayanms".
- Roll number:** A text input field containing "1905147".
- Password:** A password input field with masked characters "*****" and a toggle icon (an eye) on the right.
- Register:** A white button with the text "Register".
- Footer:** A link that says "Already have an account? [Click here to Login](#)".

The Windows taskbar is visible at the bottom of the screen, showing various application icons and the system clock displaying "ENG 09:39 PM".

Login Page:-

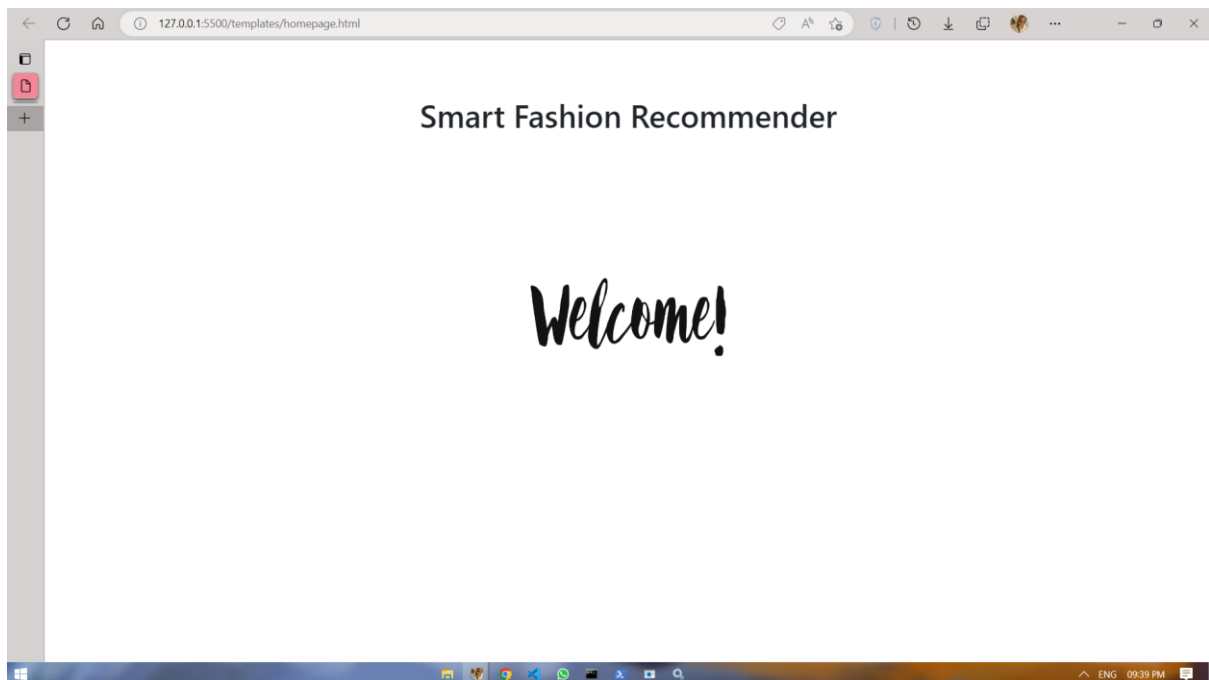


The screenshot shows a web browser window with the address bar displaying "127.0.0.1:5500/templates/login.html". The browser interface includes standard navigation buttons (back, forward, refresh, home) and a tab bar. The main content area displays a login form titled "Login" in a light gray box. The form contains the following fields and elements:

- Username:** A text input field containing "suryanarayanms".
- Password:** A password input field with masked characters "*****".
- Login:** A white button with the text "Login".
- Footer:** A link that says "Don't have an account ? [Click here to register](#)".

The Windows taskbar is visible at the bottom of the screen, showing various application icons and the system clock displaying "ENG 09:38 PM".

Welcome Page:-



Data Base Table:-

