

ASSINGNMENT : 2

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Create a Flask App

```
from flask import Flask, render_template, request, redirect, session, url_for
```

```
import sqlite3 as sql
```

```
app = Flask(__name__)
```

```
app.secret_key = 'fasdgdgdfg'
```

```
    @app.route('/')
```

```
def base():
```

```
    return render_template('base.html')
```

```
@app.route('/wel')
```

```
def wel():
```

```
    return render_template('welcome.html')
```

```
@app.route('/logout')
```

```
def logout():
```

```
    return render_template('base.html')
```

```
@app.route('/home')
```

```
def home():
```

```
    return render_template('home.html')
```

```
@app.route('/welcome')
```

```
def welcome():
```

```
    return render_template('welcome.html')

@app.route('/about')
def about():
    return render_template('about.html')

@app.route('/baseabout')
def baseabout():
    return render_template('baseabout.html')

@app.route('/addstudent')
def new_student():
    return render_template('add_student.html')

@app.route('/sign', methods = ['POST', 'GET'])
def up():
    if request.method == 'POST':
        try:
            username = request.form['username']
            email = request.form['email']
            rollnumber = request.form['rollnumber']
            password = request.form['password']
            with sql.connect("student_database.db") as con:
                cur = con.cursor()
                cur.execute("INSERT INTO user (username,email,rollnumber,password)
VALUES (?, ?, ?, ?)",(username,email,rollnumber,password) )
                con.commit()
```

```

        msg = "Record successfully added!"
except:
    con.rollback()
    msg = "error in insert operation"
finally:
    return render_template("signin.html")
    con.close()
@app.route('/signup')
def signup():
    return render_template('signup.html')
@app.route('/signin')
def signin():
    return render_template('signin.html')
@app.route('/addrec',methods = ['POST', 'GET'])
def addrec():
    if request.method == 'POST':
        try:
            name = request.form['name']
            addr = request.form['address']
            city = request.form['city']
            pin = request.form['pin']
            with sql.connect("student_database.db") as con:
                cur = con.cursor()

```

```

        cur.execute("INSERT INTO students (name,addr,city,pin) VALUES
(?,?,?,?)" ,(name,addr,city,pin) )

        con.commit()

        msg = "Record successfully added!"

    except:

        con.rollback()

        msg = "error in insert operation"

    finally:

        return render_template("list.html",msg = msg)

    con.close()

@app.route('/list')

def list():

    con = sql.connect("student_database.db")

    con.row_factory = sql.Row

    cur = con.cursor()

    cur.execute("select * from students")

    students = cur.fetchall();

    return render_template("list.html", students = students)

if __name__ == '__main__':

    app.run(debug = True)

```

```
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL JUPYTER
[Running] python -u "c:\Users\rckod\Downloads\assignment 2\assignment 2\app.py"
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with stat
* Debugger is active!
* Debugger PIN: 536-048-205
```

Database

```
import sqlite3
```

```
conn = sqlite3.connect('student_database.db')
```

```
print("Opened database successfully")
```

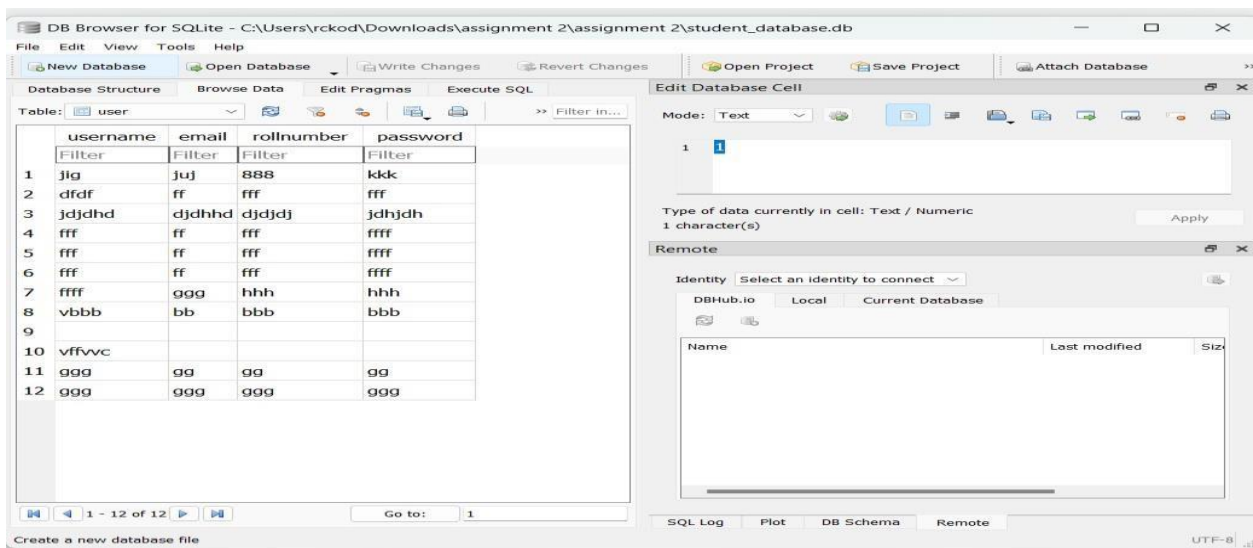
```
conn.execute('CREATE TABLE students (name TEXT, addr TEXT, city TEXT,
pin TEXT)')
```

```
conn.execute('CREATE TABLE user (username TEXT, email TEXT, rollnumber
TEXT, password TEXT)')
```

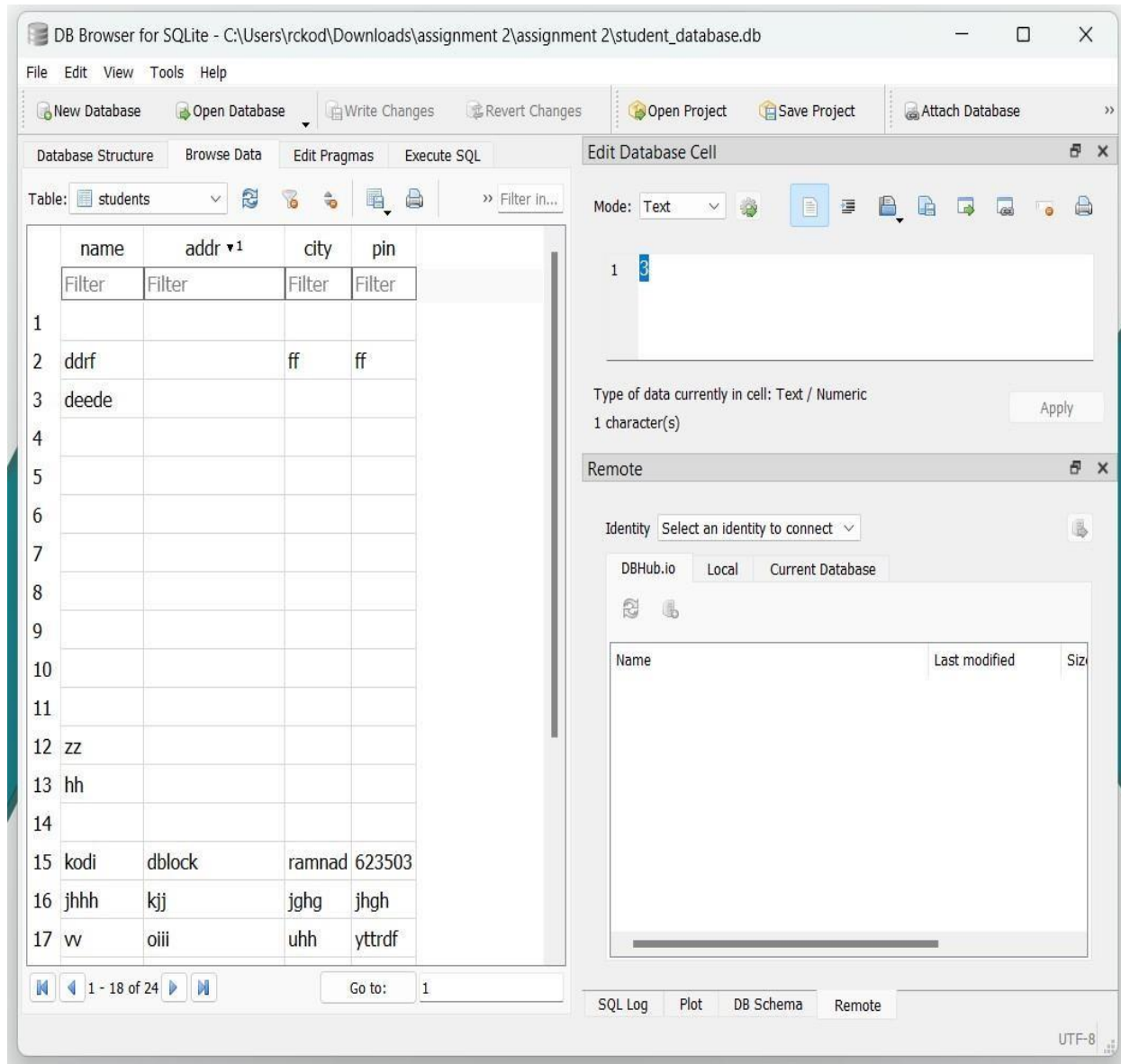
```
print("Table created successfully")
```

```
conn.close()
```

User Database:



Student Database:



2.Add the Home page, About page

About:

```
{% extends "home.html" %}
```

```
{% block title %}Home page {% endblock %}
```

```
{% block content %}
```

```
<br>
```

```
<div class="border border-success p-2" style="--bs-border-opacity: .5;">
```

```
<div class="card text-bg-primary mb-3" style="max-width: 100%; height:40%; ">
```

```
<div class="card-body">
```

```
<p class="card-text"></p>
```

```
</div>
```

```
<div class="container text-center">
```

```
<div class="row">
```

```
<div class="col">
```

```

```

```
</div>
```

```
<div class="col" >
```

```
<h1> Flask Application </h1><br>
```

```
<h5>A micro web framework written in Python</h5>
```

```
<h5>A back end which is written in Python.</h5>
```

```
<h5>Used for developing web applications</h5>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
<div class="container" style="padding-bottom:45px; padding-top:30px;" >
```

```
<div class="container text-center">
```

```
<div class="row">
```

```
<div class="col">
```

```
<h1 style="text-align:left;" > Flask Application </h1><br>
```

```
<h6 style="text-align:left;"> Flask is used for developing web applications using  
python, implemented on Werkzeug and Jinja2. Advantages of using Flask  
framework are: There is a built-in development server and a fast debugger  
provided.
```

```
</div>
```

```
<div class="col">
```

```
<div style="text-align:left; padding-left:150px; padding-top:25px;">
```

```
<h3>Popular applications that using flask</h3>
```

```
<li >Netflix.</li>
```

```
<li >Mozilla.</li>
```

```
<li >Uber.</li>
```

```
<li >Airbnb.</li>
```

```
<li >Lyft. etc...</li>
```

```
</div>
```

```
</div>
```

```
<h1 style="text-align:left; padding-top:40px;">Components of Flask </h1>
```

```
<br><br>
```

```
<div class="container text-center">
```

```
<div class="row">
```


<div class="col">

<div style="background-color:red; text-align:left; padding:20px; color:white;">

<h2>Werkzeug</h2>

Werkzeug (German for "tool") is a utility library for the Python programming language for Web Server Gateway Interface (WSGI) applications. Werkzeug can instantiate objects for request, response, and utility functions. It can be used as the basis for a custom software framework and supports Python 2.7 and 3.5 and later.

<h2>Jinja</h2>

Main article: Jinja (template engine)

Jinja, also by Ronacher, is a template engine for the Python programming language. Similar to the Django web framework, it handles templates in a sandbox.

<h2>MarkupSafe</h2>

MarkupSafe is a string handling library for the Python programming language. The eponymous MarkupSafe type extends the Python string type and marks its contents as "safe"; combining MarkupSafe with regular strings automatically escapes the unmarked strings, while avoiding double escaping of already marked strings.

<h2>ItsDangerous</h2>

ItsDangerous is a safe data serialization library for the Python programming language. It is used to store the session of a Flask application in a cookie without allowing users to tamper with the session contents.

</div></div>

<div class="col">

<h1 style="text-align:left"> Features </h1>

```
<div style="background-color:skyblue; text-align:left; padding-top:40px;
padding:20px;">
```

```
<br>
```

```
<ul>
```

```
<li>Development server and debugger<br><br></li>
```

```
<li>Integrated support for unit testing<br><br></li>
```

```
<li>RESTful request dispatching<br><br></li>
```

```
<li>Uses Jinja templating<br><br></li>
```

```
<li>Support for secure cookies (client side sessions)<br><br></li>
```

```
<li>100% WSGI 1.0 compliant<br><br></li>
```

```
<li>Unicode-based<br><br></li>
```

```
<li>Complete documentation<br><br></li>
```

```
<li>Google App Engine compatibility<br><br></li>
```

```
<li>Extensions available to extend functionality<br><br></li>
```

```
</ul>
```

```
</div></div>
```

```
{% endblock %}
```

Base About

```
{% extends "base.html" %}
```

```
{% block title %}Home page {% endblock %}
```

```
{% block content %}
```

```
<br>
```

```
<div class="border border-success p-2" style="--bs-border-opacity: .5;">
```

```

<div class="card text-bg-primary mb-3" style="max-width: 100%; height:40%; ">
    <div class="card-body">
        <p class="card-text"></p>
    </div>
</div>
<div class="container text-center">
    <div class="row">
        <div class="col">
            
        </div>
        <div class="col" >
            <h1> Flask Application </h1><br>
            <h5>A micro web framework written in Python</h5>
            <h5>A back end which is written in Python.</h5>
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        </div>
    </div>
</div>
</div>
<div class="container" style="padding-bottom:45px; padding-top:30px;" >
    <div class="container text-center">
        <div class="row">

```

```
<div class="col">
```

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<div class="col">
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```
</div>
```

```
</div>
```

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<br><br>
```

```
<div class="container text-center">
```

```
  <div class="row">
```

```
    <div class="col">
```

```
      <div style="background-color:red; text-align:left; padding:20px; color:white;">
```

```
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</div></div>

<div class="col">

<h1 style="text-align:left"> Features </h1>

<div style="background-color:skyblue; text-align:left; padding-top:40px; padding:20px;">


```
<ul>
<li>Development server and debugger<br><br></li>
<li>Integrated support for unit testing<br><br></li>
<li>RESTful request dispatching<br><br></li>
<li>Uses Jinja templating<br><br></li>
<li>Support for secure cookies (client side sessions)<br><br></li>
<li>100% WSGI 1.0 compliant<br><br></li>
<li>Unicode-based<br><br></li>
<li>Complete documentation<br><br></li>
<li>Google App Engine compatibility<br><br></li>
<li>Extensions available to extend functionality<br><br></li>
</ul>
```

```
</div></div>
```

```
{% endblock %}
```

Base

```
<html>
```

```
<head>
```

```
<meta charset="utf-8">
```

```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

```
<link
```

```
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.1/dist/css/bootstrap.min.css"
rel="stylesheet"
```

integrity="sha384-
iYQeCzEYFbKjA/T2uDLTpkwGzCiq6soy8tYaI1GyVh/UjpbCx/TYkiZhlZB6+fz
T" crossorigin="anonymous">

<title> { % block title % } { % endblock % } </title>

</head>

<body>

<nav class="navbar navbar-expand-lg bg-light">

<div class="container-fluid ">

Flask
Application

<button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-
bs-target="#navbarSupportedContent" aria-controls="navbarSupportedContent"
aria-expanded="false" aria-label="Toggle navigation">

</button>

<div class="collapse navbar-collapse " id="navbarSupportedContent">

<ul class="navbar-nav me-auto mb-2 mb-lg-0">

<li class="nav-item ">

About

<li class="nav-item">

<a class="nav-link" href="{ { url_for('signup') } }" role="button" aria-
expanded="false">

Signup

<li class="nav-item">

Signin

<li class="nav-item">

premium

<form class="d-flex" role="search">

<input class="form-control me-2" type="search" placeholder="Search" aria-label="Search">

<button class="btn btn-outline-success" type="submit">Search</button>

</form>

</div>

</div>

</nav>

{ % block content % }

{ % endblock % }

<script

src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.1/dist/js/bootstrap.bundle.min.js"

integrity="sha384-
u1OknCvxWvY5kfmNBILK2hRnQC3Pr17a+RTT6rIHI7NnikvZlHgTPOOmMi
466C8" crossorigin="anonymous"></script>

<script
src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.11.6/dist/umd/popper.min.js"
integrity="sha384-
oBqDVMmMz9ATKxIep9tiCxS/Z9fNfEXiDAYTujMAeBAsjFuCZSmKbSSUnQlm
h/jp3" crossorigin="anonymous"></script>

<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.1/dist/js/bootstrap.min.js"
integrity="sha384-
7VPbUDkoPSGFnVtYi0QogXtr74QeVeeIs99Qfg5YCF+TidwNdjvaKZX19NZ/e6 oz"
crossorigin="anonymous"></script>

</body>

</html>

Home

<html>

<head>

<meta charset="utf-8">

<meta name="viewport" content="width=device-width, initial-scale=1">

<linkhref="https://cdn.jsdelivr.net/npm/bootstrap@5.2.1/dist/css/bootstrap.min.css"
" rel="stylesheet"

integrity="sha384-
iYQeCzEYFbKjA/T2uDLTpkwGzCiq6soy8tYaI1GyVh/UjpbCx/TYkiZhlZB6+fz
T" crossorigin="anonymous">

<title> { % block title % } { % endblock % } </title>

</head>

<body>

```
<nav class="navbar navbar-expand-lg bg-light">

  <div class="container-fluid">

    <a class="navbar-brand" href="http://www.flaskapplication.com">Flask
    Application</a>

    <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-
    bs-target="#navbarSupportedContent" aria-controls="navbarSupportedContent"
    aria-expanded="false" aria-label="Toggle navigation">

      <span class="navbar-toggler-icon"></span>

    </button>

    <div class="collapse navbar-collapse" id="navbarSupportedContent">

      <ul class="navbar-nav me-auto mb-2 mb-lg-0">

        <li class="nav-item">

          <a class="nav-link active" aria-current="page" href="{{ url_for('home')
          }}">Home</a>

        </li>

        <li class="nav-item">

          <a class="nav-link" href="{{ url_for('about') }}">About</a>

        </li>

        <li class="nav-item">

          <a class="nav-link" href="{{ url_for('new_student') }}" role="button" aria-
          expanded="false">

            Add student

          </a>

        </li>

      </ul>

    </div>

  </div>

</nav>
```

```
<li class="nav-item">

  <a class="nav-link" href="{{ url_for('list') }}" role="button" aria-
expanded="false">

    List of students

  </a>

</li>

<li class="nav-item">

  <a class="nav-link" href="{{ url_for('logout') }}" role="button" aria-
expanded="false">

    Logout

  </a>

</li>

<li class="nav-item">

  <a class="nav-link disabled">premium</a>

</li>

</ul>

<form class="d-flex" role="search">

  <input class="form-control me-2" type="search" placeholder="Search" aria-
label="Search">

  <button class="btn btn-outline-success" type="submit">Search</button>

</form>

</div>

</div>

</nav>
```

{% block content %}

{% endblock %}

<script

src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.1/dist/js/bootstrap.bundle.min.js"

integrity="sha384-

u1OknCvxWvY5kfmNBILK2hRnQC3Pr17a+RTT6rIHI7NnikvbZlHgTPOOmMi

466C8" crossorigin="anonymous"></script>

<scriptsrc="https://cdn.jsdelivr.net/npm/@popperjs/core@2.11.6/dist/umd/popper.

min.js" integrity="sha384-

oBqDVmMz9ATKxIep9tiCxS/Z9fNfEXiDAYTujMAeBAsjFuCZSmKbSSUnQlm

h/jp3" crossorigin="anonymous"></script>

<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.1/dist/js/bootstrap.min.js"

integrity="sha384-

7VPbUDkoPSGFnVtYi0QogXtr74QeVeeIs99Qfg5YCF+TidwNdjvaKZX19NZ/e6 oz"

crossorigin="anonymous"></script>

</body>

</html>

List

{% extends "home.html" %}

{% block title %}Home page {% endblock %}

{% block content %}

<hr>

{{ msg }}

<center>

<table class="table table-dark" style="margin:30px;">

<thead class="table-info">

```

        <td>Name</td>

        <td>Address</td>

        <td>city</td>

        <td>Pincode</td>

    </thead>

    {% for row in students %}

        <tr>

            <td>{{ row["name"] }}</td>

            <td>{{ row["addr"] }}</td>

            <td>{{ row["city"] }}</td>

            <td>{{ row["pin"] }}</td>

        </tr>

    {% endfor %}

</table>

</center>

{% endblock %}

Result

<!doctype html>

<html>

    <body>

        {{ msg }}

        <h2><a href = "">Back to home page</a></h2>

    </body>

```

</html>

Sign in

```
{% extends "base.html" %}
```

```
{% block title %}Home page {% endblock %}
```

```
{% block content %}
```



```
<form action = "{ { url_for('welcome') }}" >
```

```
<div style="margin-left:50px; margin-right:50px;">
```

```
<div class="mb-3">
```

```
    <label for="username" class="form-label">username</label>
```

```
    <input type="username" class="form-control" id="exampleInputEmail1"
name="username">
```

```
</div>
```

```
<div class="mb-3">
```

```
    <label for="Email1" class="form-label">Email Id</label>
```

```
    <input type="email" class="form-control" id="exampleInputEmail1"
name="email">
```

```
</div>
```

```
<div class="mb-3">
```

```
    <label for="Password" class="form-label">Password</label>
```

```
    <input type="password" class="form-control" id="Password"
name="password">
```

```
</div>
```

```
<div class="mb-3 form-check">
```

```
<input type="checkbox" class="form-check-input" id="exampleCheck1">
<label class="form-check-label" for="exampleCheck1">Check me out</label>
</div>
<button type="submit" class="btn btn-primary">Submit</button>
</form>
</div>
{% endblock %}
```

Signup

```
{% extends "base.html" %}
{% block title %}Home page {% endblock %}
{% block content %}
<br>
<form action = "{{ url_for('welcome')}}" >
<div style="margin-left:50px; margin-right:50px;">
<div class="mb-3">
    <label for="username" class="form-label">username</label>
    <input type="text" class="form-control" id="exampleInputEmail1"
name="username">
</div>
<div class="mb-3">
    <label for="Email1" class="form-label">Email Id</label>
    <input type="text" class="form-control" id="exampleInputEmail1"
name="email">

```

```

</div>

<div class="mb-3">

  <label for="Password" class="form-label">Password</label>

  <input type="password" class="form-control" id="Password"
name="password">

</div>

<div class="mb-3 form-check">

  <input type="checkbox" class="form-check-input" id="exampleCheck1">

  <label class="form-check-label" for="exampleCheck1">Check me out</label>

</div>

<button type="submit" class="btn btn-primary">Submit</button>

</form>

</div>

{% endblock %}

```

Welcome

```

{% extends "home.html" %}

{% block title %}Home page {% endblock %}

{% block content %}

<div class="container-fluid" style="padding-top:70px;">

<div class="p-3 mb-2 bg-dark text-white">

<h1 class="text-start" style="text-align:center; font-size:100px;">welcome
to</h1>

```



```
<h1 class="text-center" style="text-align:center; font-size:100px;">flask</h1>
```

```
<h1 class="text-end" style="text-align:center; font-size:100px;">Application.</h1>
```

```
</div>
```

```
</div>
```

```
{% endblock % }
```

Database

```
import sqlite3
```

```
conn = sqlite3.connect('student_database.db')
```

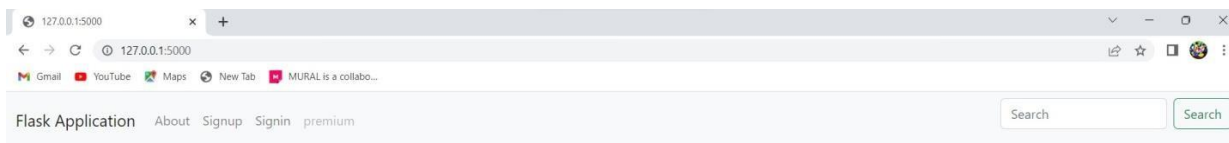
```
print("Opened database successfully")
```

```
conn.execute('CREATE TABLE students (name TEXT, addr TEXT, city TEXT, pin TEXT)')
```

```
conn.execute('CREATE TABLE user (username TEXT, email TEXT, rollnumber TEXT, password TEXT)')
```

```
print("Table created successfully")
```

```
conn.close()
```



- A micro web framework written in Python
- A back end which is written in Python.
- Used for developing web applications

Flask Application

Flask is used for developing web applications using python, implemented on Werkzeug and Jinja2. Advantages of using Flask framework are: There is a built-in development server and a fast debugger provided.

Popular applications that using flask

- Netflix.
- Mozilla.
- Uber.
- Airbnb.
- Lyft. etc...

MSN India | Breaking News, Ent... Home page

127.0.0.1:5000/signup

Flask Application About Signup Signin premium

Search Search

Username

Email Id Please fill out this field.

Roll Number

Password

Reenter Password

☐ Check me out

Submit

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