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Create a Flask App

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

import sqlite3 as sql

app = Flask(__name__)

app.secret_key = 'fasdgfdgdfg'

    @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():
```

```python
    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()
```

```python
            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()
```

```python
        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)
```

Database

import sqlite3

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

print("Opened database successfully")
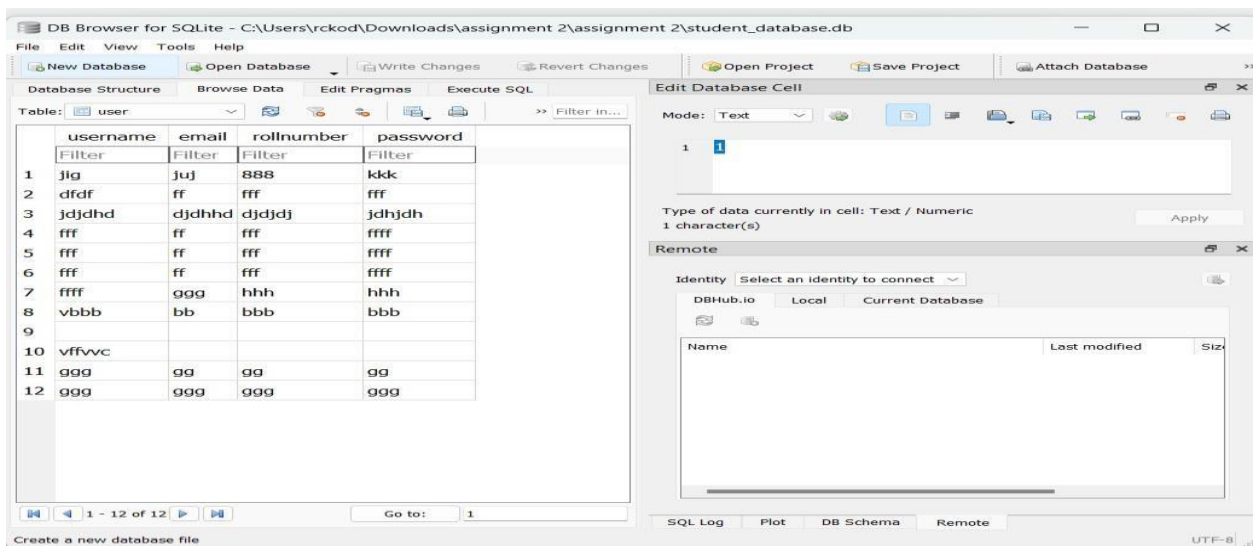
conn.execute('CREATE TABLE students (name TEXT, addr TEXT, city TEXT, pin TEXT)')

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

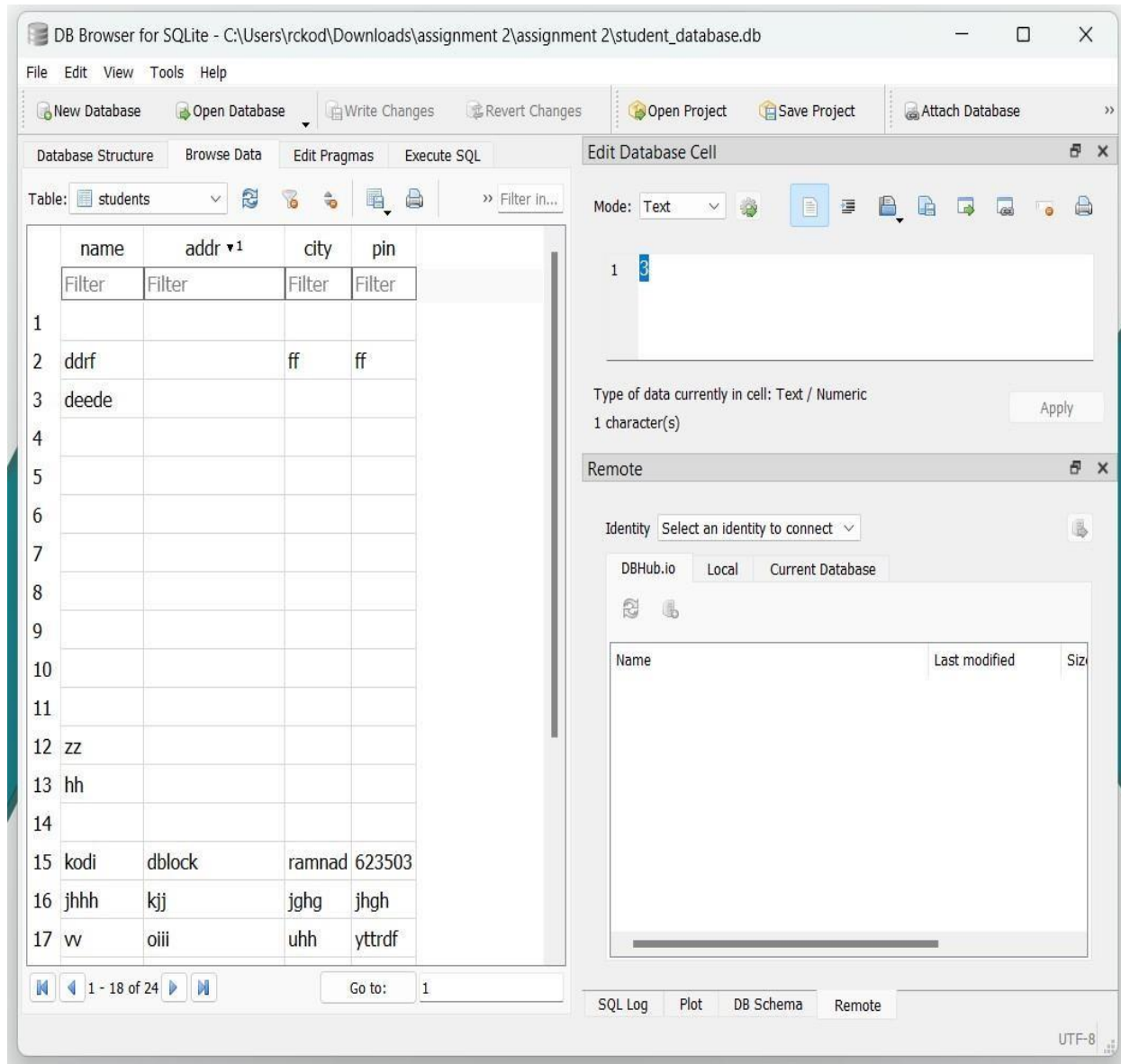print("Table created successfully")

conn.close()

User Database:

Student Database:

2.Add the Home page, About page

About:

{% extends "home.html" %}

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

```html
{% 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">

    <img src="static/images/flask.jpg" height="200cm" width="200cm" class="img-thumbnail" alt="umarimg"

        style="margin-left:0px; ">

   </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>
```

```html
<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;">
```

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

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

 </div>

 <div class="container text-center">

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  <li >Netflix.</li>

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    </div>

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</div></div>

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


```
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<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 ">

    <a class="navbar-brand" href="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" href="{{ url_for('baseabout') }}">About</a>

    </li>

            <li class="nav-item">

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

          Signup

        </a>
```

```html
          </li>

            <li class="nav-item">

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

            Signin

          </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>
```

```
<script
src="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>
```

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>
```

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

  <div class="container-fluid">

    <a class="navbar-brand" href="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>
```

```html
    <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"

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u1OknCvxWvY5kfmNBILK2hRnQC3Pr17a+RTT6rIHI7NnikvbZlHgTPOOmMi
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min.js" integrity="sha384-
oBqDVmMz9ATKxIep9tiCxS/Z9fNfEXiDAYTujMAeBAsjFuCZSmKbSSUnQlm
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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="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 %}
```

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>
```

```html
<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

```python
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()
```
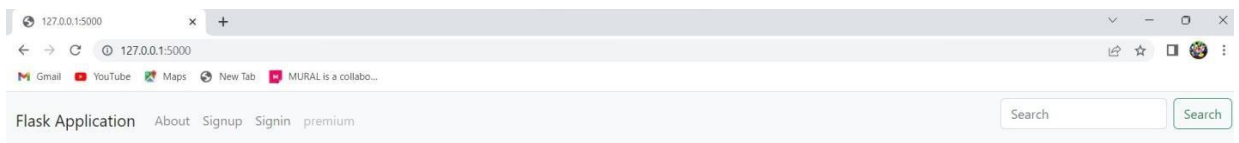
Search   Search

Flask Application

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Popular applications that using flask

- Netflix.
- Mozilla.
- Uber.
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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

127.0.0.1:5000/sign

Flask Application   About   Signup   Signin   premium | Search | Search

username

Email Id

Password

☐ Check me out

Submit

127.0.0.1:5000/welcome?username=kodi&email=kodi%40gn&password=asdf

Flask Application   Home   About   Add student   List of students   Logout   premium | Search | Search

welcome to flask Application.

MSN India | Breaking News, Entertainment, Latest Videos, Outlook
udent

Search | Search |

Flask Application   Home   About   Add student   List of students   Logout   premium

Add Students Information

Name : [   ]   Address: [   ]

•   City : [   ]   Pincode : [   ]

☐ Check Me Out

[Submit]

127.0.0.1:5000/addrec

Search | Search |

Flask Application   Home   About   Add student   List of students   Logout   premium

Record successfully added!

Name	Address	city	Pincode

MSN India | Breaking News, Entertainment, Latest Videos, Outlook

127.0.0.1:5000/list

Search | Search |

...sk Application   Home   About   Add student   List of students   Logout   premium

Name	Address	city	Pincode
jhhh	kjj	jghg	jhgh
vv	oiii	uhh	yttrdf
ddrf		ff	ff
deede			