

```
from flask import Flask, render_template, request, redirect, url_for
import psycopg2
```

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

```
def connect_to_database():
    connection = psycopg2.connect(
        host="localhost",
        database="databasepostgresql",
        user="postgres",
        password="admin1234"
    )
    return connection
```

```
def create_table():
    conn = connect_to_database()
    cursor = conn.cursor()
    cursor.execute("""
        CREATE TABLE IF NOT EXISTS user_data (
            id SERIAL PRIMARY KEY,
            first_name TEXT NOT NULL,
            middle_name TEXT NOT NULL,
            last_name TEXT NOT NULL,
            contact TEXT,
            student_number TEXT
        )
    """)
    conn.commit()
    conn.close()
```

```
def insert_data(first_name, middle_name, last_name, contact, student_number):
    conn = connect_to_database()
    cursor = conn.cursor()
    cursor.execute("""
        INSERT INTO user_data (first_name, middle_name, last_name, contact, student_number)
        VALUES (%s, %s, %s, %s, %s)
    """, (first_name, middle_name, last_name, contact, student_number))
    conn.commit()
    conn.close()
```

```
def get_all_data():
    conn = connect_to_database()
    cursor = conn.cursor()
    cursor.execute("SELECT * FROM user_data")
    data = cursor.fetchall()
    conn.close()
    return data
```

```
@app.route("/")
def main():
    return render_template('task04postgre_index.html')
```

```

@app.route("/home", methods=['POST', 'GET'])
def display():
    if request.method == 'POST':
        first_name = request.form['fname']
        middle_name = request.form['midname']
        last_name = request.form['lname']
        contact = request.form['tel']
        student_number = request.form['usn']
        insert_data(first_name, middle_name, last_name, contact, student_number)
    data = get_all_data()
    return render_template('task04postgre_display.html', htmliddata=data)

@app.route("/edit/<int:id>", methods=['GET', 'POST'])
def edit(id):
    conn = connect_to_database()
    cursor = conn.cursor()
    if request.method == 'POST':
        first_name = request.form['fname']
        middle_name = request.form['midname']
        last_name = request.form['lname']
        contact = request.form['tel']
        student_number = request.form['usn']
        cursor.execute("""
            UPDATE user_data
            SET first_name=%s, middle_name=%s, last_name=%s, contact=%s, student_number=%s
            WHERE id=%s
            """, (first_name, middle_name, last_name, contact, student_number, id))
        conn.commit()
        conn.close()
        return redirect(url_for('display'))
    else:
        cursor.execute("SELECT * FROM user_data WHERE id=%s", (id,))
        data = cursor.fetchone()
        conn.close()
        return render_template('task04postgre_edit.html', htmliddata=data)

@app.route("/delete/<int:id>")
def delete(id):
    conn = connect_to_database()
    cursor = conn.cursor()
    cursor.execute("DELETE FROM user_data WHERE id=%s", (id,))
    conn.commit()
    conn.close()
    return redirect(url_for('display'))

if __name__ == '__main__':
    app.run(host='0.0.0.0', debug=True)

```

task04postgre_display.html

```
<!DOCTYPE html>
<html>

<head>
  <title>Display Page</title>
</head>

<body>
  <h1>POSTGRESQL Data</h1>
  <table border="1">
    <tr>
      <th>ID</th>
      <th>First Name</th>
      <th>Middle Name</th>
      <th>Last Name</th>
      <th>Contact</th>
      <th>Student Number</th>
      <th>Action</th>
    </tr>
    {% for row in htmldata %}
    <tr>
      <td>{{ row[0] }}</td>
      <td>{{ row[1] }}</td>
      <td>{{ row[2] }}</td>
      <td>{{ row[3] }}</td>
      <td>{{ row[4] }}</td>
      <td>{{ row[5] }}</td>
      <td>
        <a href="{{ url_for('edit', id=row[0]) }}">Edit</a> |
        <a href="{{ url_for('delete', id=row[0]) }}" onclick="return confirm('Are you sure you
want to delete this record?')">Delete</a>
      </td>
    </tr>
    {% endfor %}
  </table>
  <p><a href="{{ url_for('main') }}">Click to form</a></p>
</body>

</html>
```

task04postgre_edit.html

```
<!DOCTYPE html>
<html>

<head>
  <title>Edit User Data</title>
</head>

<body>
  <h1>Edit User Data</h1>
  <form method="POST">
    <input type="hidden" name="id" value="{{ htmldata[0] }}">
    <label for="fname">First Name:</label>
    <input type="text" name="fname" value="{{ htmldata[1] }}" required><br>
    <label for="midname">Middle Name:</label>
    <input type="text" name="midname" value="{{ htmldata[2] }}" required><br>
    <label for="lname">Last Name:</label>
    <input type="text" name="lname" value="{{ htmldata[3] }}" required><br>
    <label for="tel">Contact:</label>
    <input type="tel" name="tel" value="{{ htmldata[4] }}"><br>
    <label for="usn">Student Number:</label>
    <input type="text" name="usn" value="{{ htmldata[5] }}" required><br>
    <input type="submit" value="Save">
  </form>
  <p><a href="{{ url_for('display') }}">Back to User Data</a></p>
</body>

</html>
```

task04postgre_index.html

```
<!DOCTYPE html>
<html>

<head>
  <title>Input Page</title>
</head>

<body>
  <h1>POSTGRESQL Data</h1>
  <form method="POST" action="/home">
    <label for="fname">First Name:</label>
    <input type="text" id="fname" name="fname" placeholder="Firstname" required
  ><br><br>

    <label for="midname">Middle Name:</label>
    <input type="text" id="midname" name="midname" placeholder="Middlename" required
  ><br><br>

    <label for="lname">Last Name:</label>
    <input type="text" id="lname" name="lname" placeholder="Lastname"
  required><br><br>

    <label for="tel">Contact Number:</label>
    <input type="text" id="tel" name="tel" placeholder="Contact" required><br><br>

    <label for="usn">Student Number (USN):</label>
    <input type="text" id="usn" name="usn" placeholder="Student Number"><br><br>

    <input type="submit" value="Submit">
  </form>
</body>

</html>
```