

PROGRAM:

index.html:

```
<!-- templates/index.html -->
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Social Media App</title>
  <link rel="stylesheet" href="{{ url_for('static', filename='styles.css') }}">
</head>

<body>
  <div style="text-align: center;">
    <h1>Users</h1>
  </div>
  <hr>
  <div class="image-container">
    {% for user in users %}
    <a href="{{ url_for('profile', user_id=user.split('/')[-1]) }}">
      
      <div class="overlay">{{ social_graph.value(user, FOAF.name) }}</div>
    </a>
    {% endfor %}
  </div>
</body>

</html>
```

profile.html:

```
<!-- templates/profile.html -->
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>User Profile</title>
  <link rel="stylesheet" href="{{ url_for('static', filename='styles.css') }}">
</head>

<body>
  <h1>User Profile</h1>
  <p>Name: {{ user_name }}</p>
  <h2>Friends</h2>
  <ul>
    {% for friend in friends %}
    <li>{{ social_graph.value(friend, FOAF.name) }}</li>
    {% endfor %}
  </ul>
</body>
</html>
```

```
</ul>
</body>

</html>
```

styles.css:

```
/* static/styles.css */
body {
  font-family: 'Times New Roman', Times, serif;
  margin: 20px;
  background-color: aliceblue;
}

h1, h2 {
  color: #333;
}

ul {
  list-style-type: none;
  padding: 0;
}

li {
  margin-bottom: 10px;
}

/* Define a basic styling for the image container */
.image-container {
  display: flex;
  justify-content: space-evenly;
  max-width: 800px; /* Adjust the max-width based on your design */
  margin: auto; /* Center the container */
}

/* Style for each individual image container */
.image-container a {
  position: relative;
  text-decoration: none;
  display: inline-block; /* Ensure block-level layout for the anchor */
}

/* Style for each individual image */
.image-container img {
  width: 100%; /* Set the width to 100% to match the container size */
  height: auto; /* Auto-adjust height to maintain the aspect ratio */
  margin-right: 16px; /* Add some spacing between images */
  transition: transform 0.3s; /* Add a smooth transition effect */
  display: block; /* Ensure block-level layout for the image */
}

/* Style for the text overlay */
.image-container .overlay {
  position: absolute;
  top: 0;
```

```

left: 0;
width: 100%; /* Set the width to 100% to match the container size */
height: 100%; /* Set the height to 100% to match the container size */
display: flex;
align-items: center;
justify-content: center;
opacity: 0;
background: rgba(0, 0, 0, 0.5); /* Semi-transparent background */
color: #fff; /* Text color */
transition: opacity 0.3s; /* Add a smooth transition effect */
pointer-events: none; /* Ensure the overlay doesn't block interactions with the
underlying image */
}

/* Hover effect on images */
.image-container a:hover .overlay {
    opacity: 1;
}

/* Style for the image links */
.image-container a {
    text-decoration: none; /* Remove underlines from links */
    color: inherit; /* Inherit text color from the parent */
}

```

app.py:

```

from flask import Flask, render_template, request from

rdflib import Graph, Namespace, Literal, URIRefapp =

Flask(__name__)

# RDF graph to store social data
social_graph = Graph()

# Define Namespace
FOAF = Namespace("http://xmlns.com/foaf/0.1/")

# Sample user data
user_data = {
    "1": ("Luffy", ["2", "3", "4"]),
    "2": ("Zoro", ["1", "4", "3"]),
    "3": ("Nami", ["1", "4", "2"]),
    "4": ("Usopp", ["1", "3", "2"])
}

# Populate RDF graph with sample data
for user_id, (name, friends) in user_data.items():
    user_uri = URIRef(f"http://example.com/users/{user_id}")
    social_graph.add((user_uri, FOAF.name, Literal(name)))
    for friend_id in friends:
        friend_uri = URIRef(f"http://example.com/users/{friend_id}")
        social_graph.add((user_uri, FOAF.knows, friend_uri))

```

```

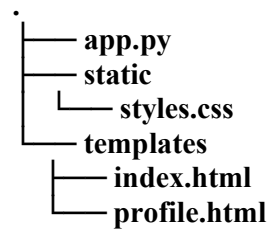
@app.route('/')
def index():
    # Display a list of users
    users = social_graph.subjects(predicate=FOAF.name)
    return render_template('index.html', users=users, social_graph=social_graph,
FOAF=FOAF)

@app.route('/profile/<user_id>')def
profile(user_id):
    try:
        user = URIRef(f"http://example.com/users/{user_id}")
        user_name = social_graph.value(user, FOAF.name)
        friends = social_graph.objects(subject=user, predicate=FOAF.knows)
        return render_template('profile.html', user_name=user_name, friends=friends,
            social_graph=social_graph, FOAF=FOAF)
    except Exception as e:
        return render_template('error.html', error_message=str(e))

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

```

PROJECT STRUCTURE: (Just For Ref.)



2 directories, 4 files

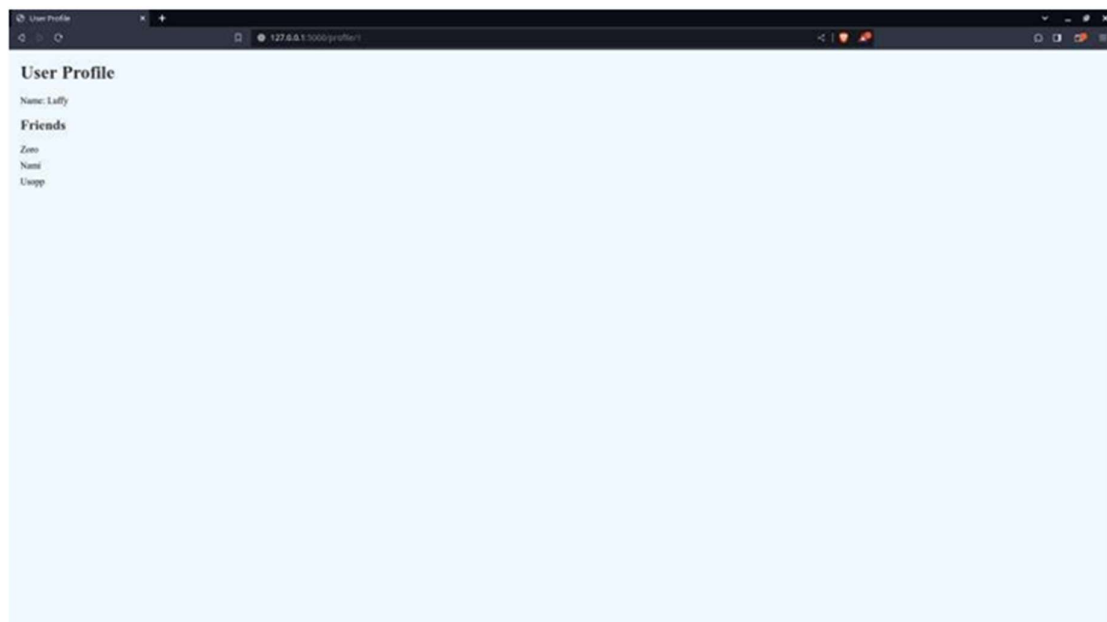
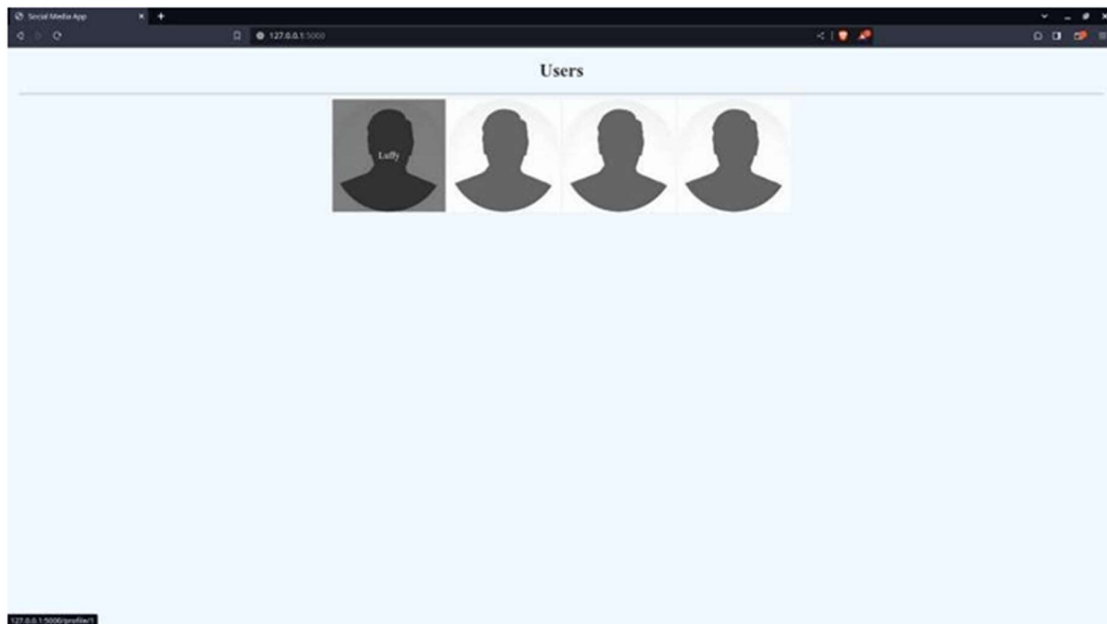
Execution (Python (Programming Language)):

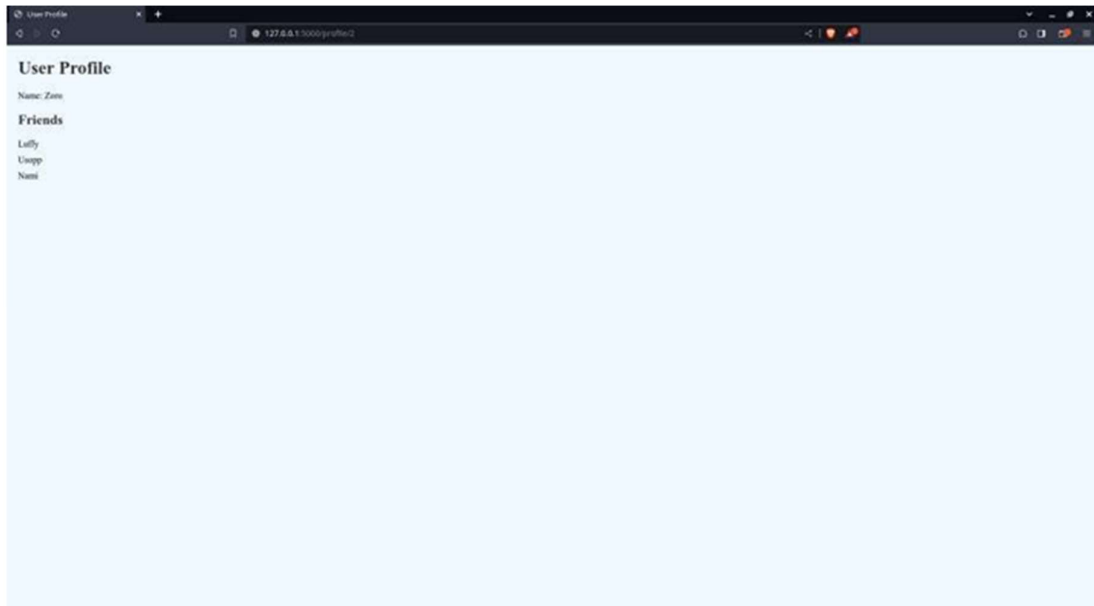
```

$ pip3 install Flask
$ pip3 install rdflib
$ python3 app.py

```

OUTPUT:



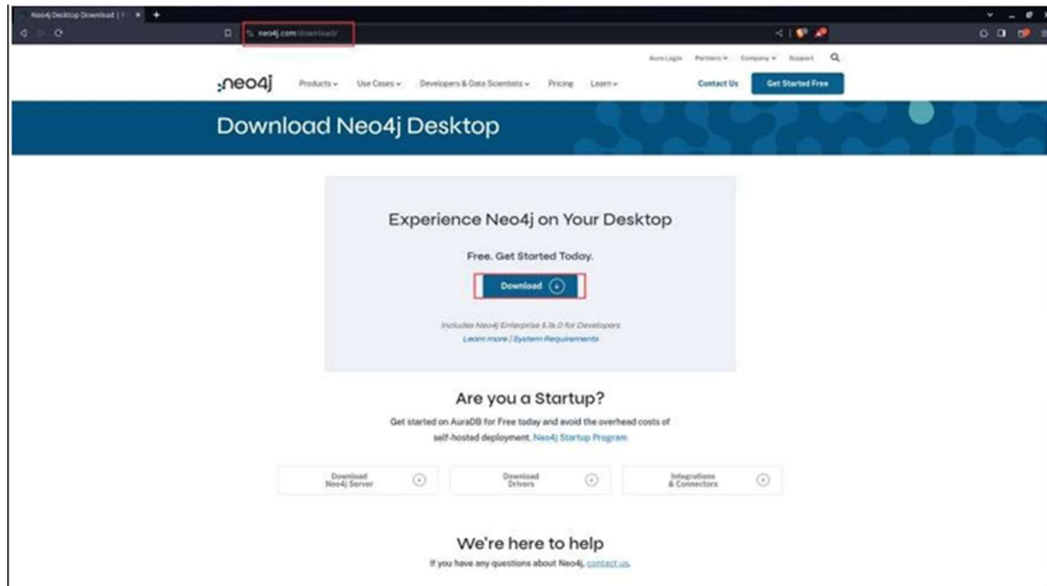


RESULT:

INSTALLATION:

Step 1: Navigate to the Neo4j download page by visiting <https://neo4j.com/download/>.

Step 2: On the page, locate and click on the 'Download' button."



Step 3: Fill out the form and click “Download Desktop”.

A screenshot of the Neo4j Desktop download form. The browser address bar shows 'neo4j.com/download/neo4j-desktop/edition/desktop/MicrosoftWindows/edition/3.5.0/edition/true'. The page has a dark blue header with the Neo4j logo and navigation links: Products, Use Cases, Developers & Data Scientists, Pricing, Learn, Contact Us, and a Get Started Free button. Below the header is a large blue banner with the text 'Get Started Now'. The main content area is white and features a central box with the heading 'Get Started Now'. Inside this box, it says 'Please fill out this form to begin your download.' and has a 'Download Desktop' button. Below this, there's a form with several input fields: 'Student', '14', 'student@vivoce.org', 'VV', 'Student', 'Student', '123456789', and 'India'. At the bottom of the form, there's a checkbox labeled 'By downloading you agree to the Neo4j License Agreement for Neo4j Desktop Software.' and a link to 'Privacy Policy'.

[illegible]

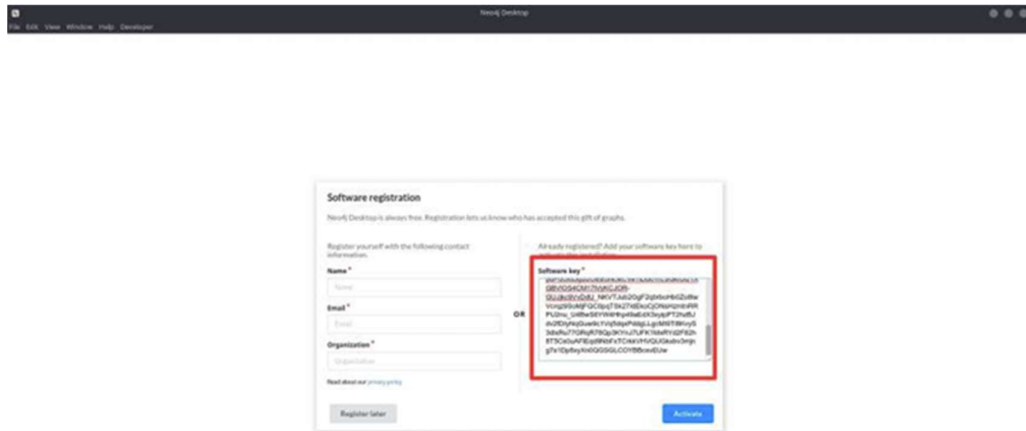
```
$ ls -al | grep "neo4j"
```

```
$ chmod +x neo4j-desktop-1.5.9-x86_64.AppImage
```

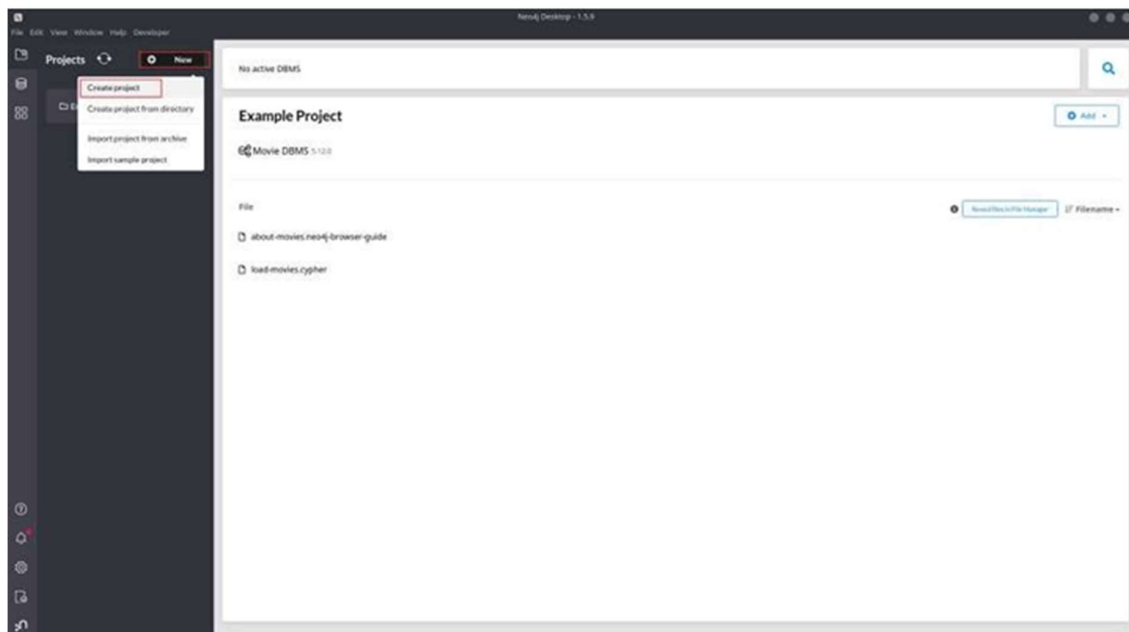
Start the AppImage:

[illegible]

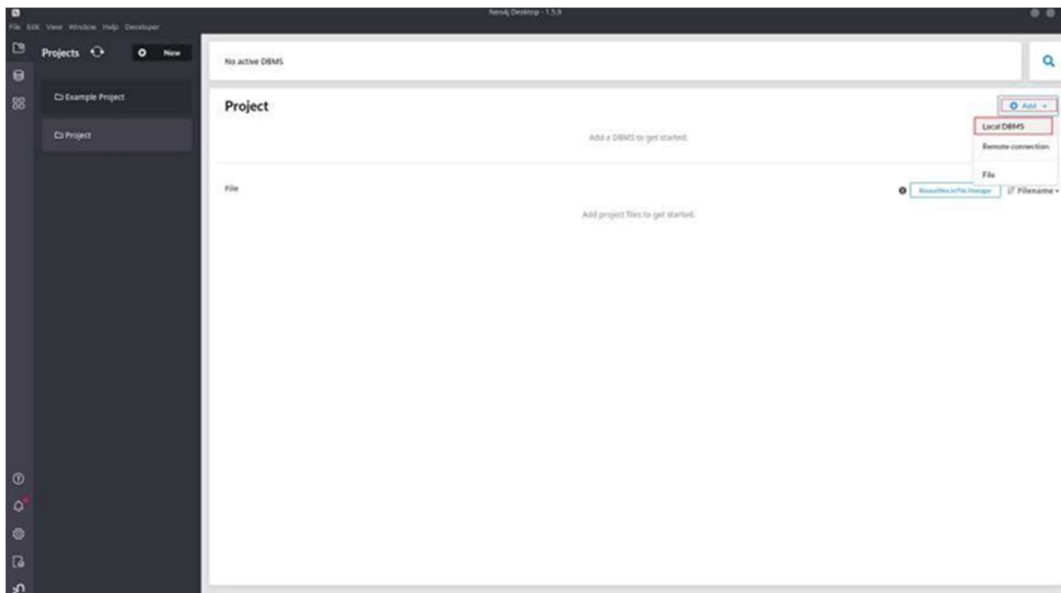
Step 6: After opening Neo4j, navigate to the 'Software Key' section and paste the previously copied 'Activation Key'. Then, click the 'Activate' button to complete the activation process.



Step 7: Within Neo4j, click on the 'New' button to create a new project.



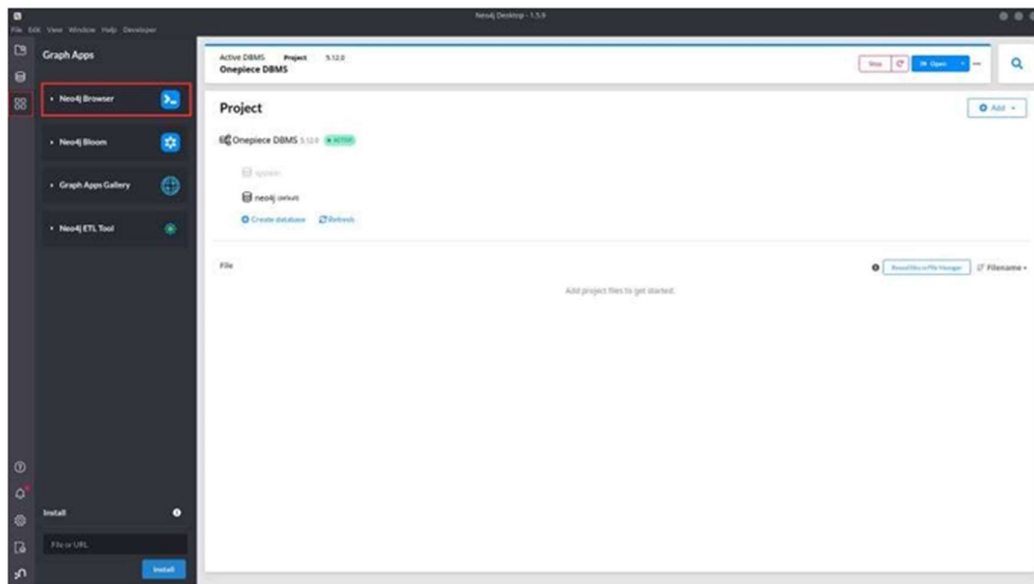
Step 8: Once you have created a new project, click on 'Add' and then select 'Local DBMS' to add a new database to our project.



When prompted, enter any desired DBMS name and password.

Step 9: Click the 'Start' button in the right corner of your newly created database.

Step 10: Once started, open the 'Neo4j Browser'.



Once the Neo4j Browser has started successfully, this is where you can execute your 'Cypher query'.

PROGRAM:

Creating character nodes:

```
CREATE (:Character {name: 'Monkey D. Luffy', role: 'Main Protagonist'})
CREATE (:Character {name: 'Roronoa Zoro', role: 'Swordsman'})
CREATE (:Character {name: 'Nami', role: 'Navigator'}) CREATE
(:Character {name: 'Usopp', role: 'Sniper'}) CREATE
(:Character {name: 'Sanji', role: 'Cook'})
```

Creating crew relationship:

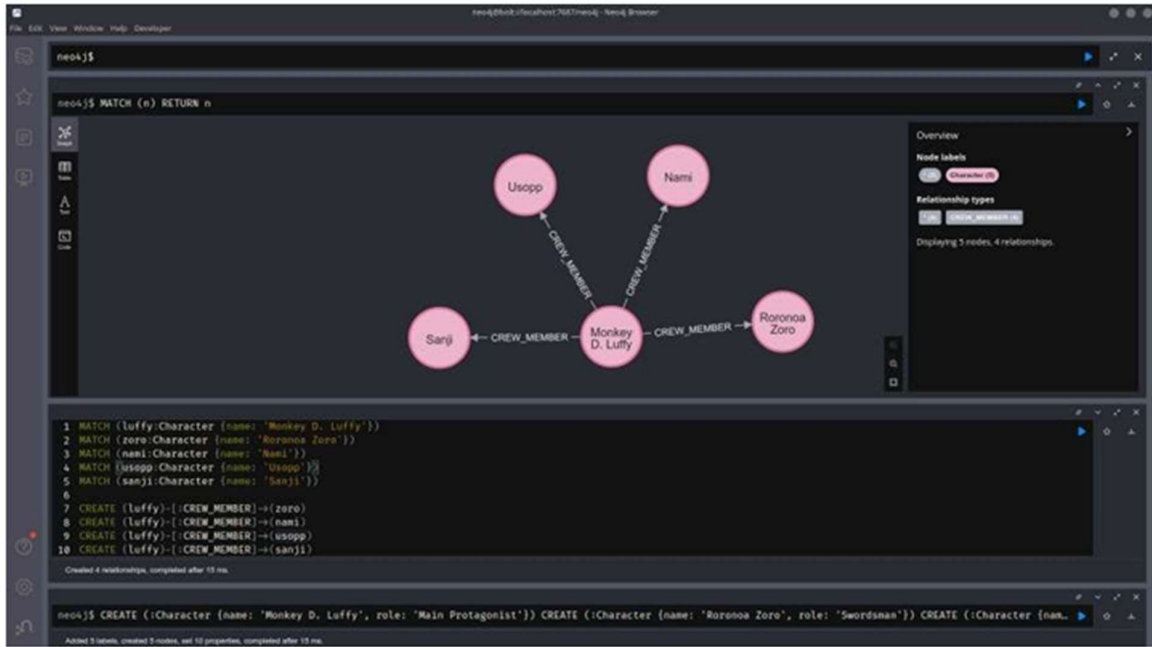
```
MATCH (luffy:Character {name: 'Monkey D. Luffy'})
MATCH (zoro:Character {name: 'Roronoa Zoro'}) MATCH
(nami:Character {name: 'Nami'})
MATCH (usopp:Character {name: 'Usopp'})
MATCH (sanji:Character {name: 'Sanji'})

CREATE (luffy)-[:CREW_MEMBER]->(zoro)
CREATE (luffy)-[:CREW_MEMBER]->(nami)
CREATE (luffy)-[:CREW_MEMBER]->(usopp)
CREATE (luffy)-[:CREW_MEMBER]->(sanji)
```

Returning graph:

```
MATCH (n) RETURN n
```

OUTPUT:



RESULT:

PROGRAM:

Write data to graph database:

```
// nodes for characters
CREATE (:Character {name: 'Monkey D. Luffy', position: 'Captain'})
CREATE (:Character {name: 'Roronoa Zoro', position: 'Swordsman'})
CREATE (:Character {name: 'Nami', position: 'Navigator'})

// nodes for islands
CREATE (:Island {name: 'Dressrosa', type: 'Kingdom'})
CREATE (:Island {name: 'Alabasta', type: 'Kingdom'})
WITH 1 as dummy

// relationships between characters and islands
MATCH (luffy:Character {name: 'Monkey D. Luffy'})
MATCH (zoro:Character {name: 'Roronoa Zoro'}) MATCH
(nami:Character {name: 'Nami'})
MATCH (dressrosa:Island {name: 'Dressrosa'})
MATCH (alabasta:Island {name: 'Alabasta'})

CREATE (luffy)-[:VISITS]->(dressrosa)
CREATE (zoro)-[:VISITS]->(alabasta)
CREATE (nami)-[:VISITS]->(dressrosa)
```

Reading data from graph database:

```
// Retrieve all characters
MATCH (c:Character)
RETURN c
```

Retrieve characters visiting a specific island:

```
MATCH (character)-[:VISITS]->(island:Island {name: 'Dressrosa'})
RETURN character
```

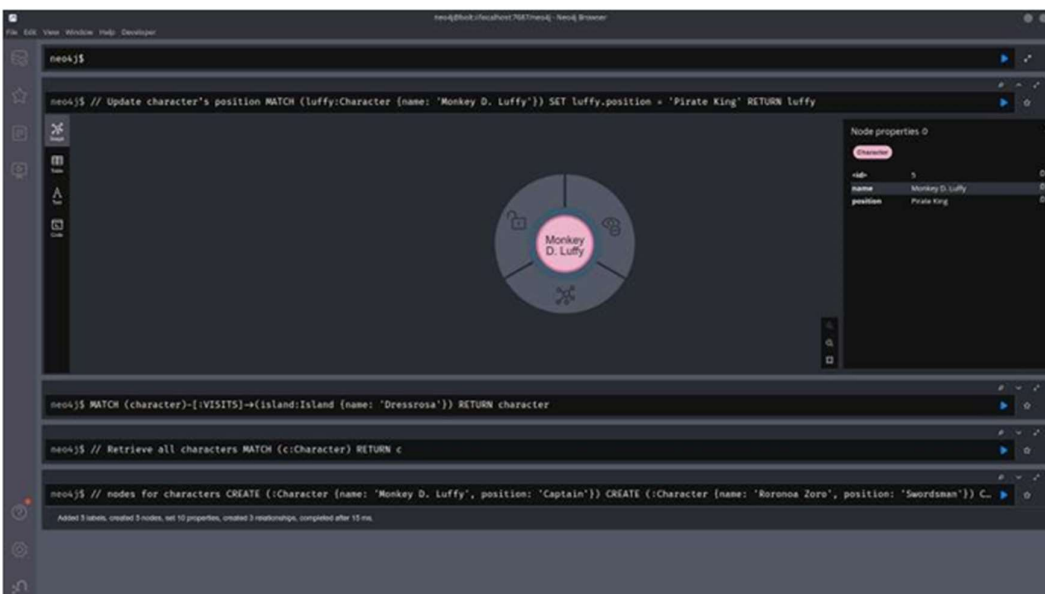
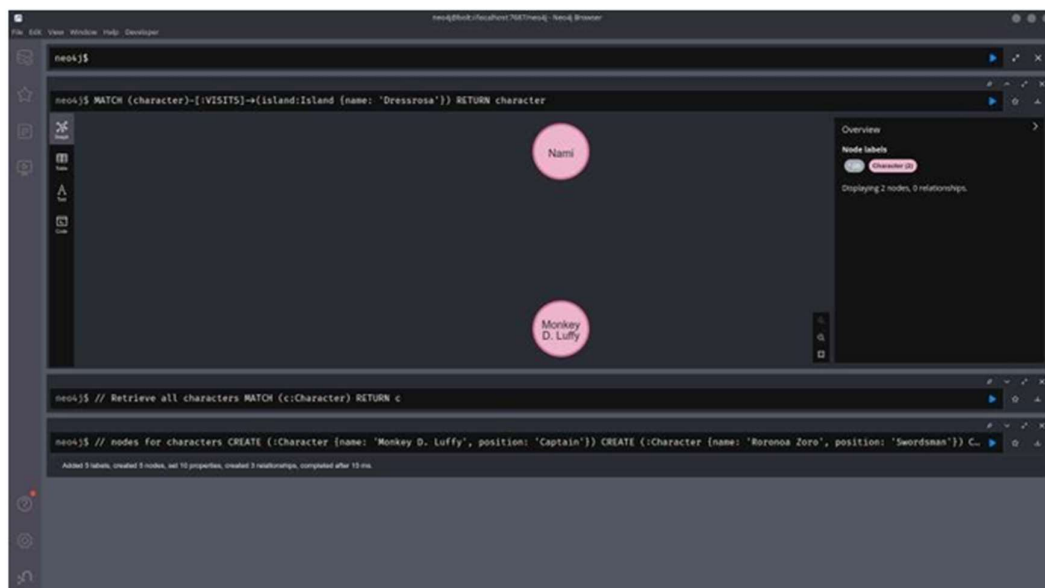
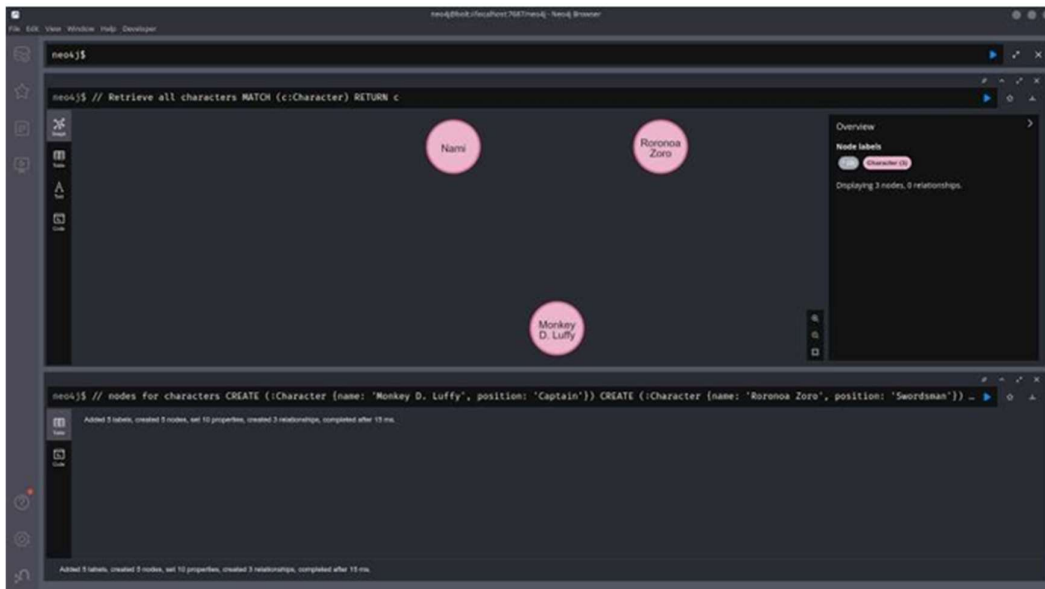
Updating data:

```
// Update character's position
MATCH (luffy:Character {name: 'Monkey D. Luffy'})
SET luffy.position = 'Pirate King'
RETURN luffy
```

Deleting data:

```
MATCH (character:Character {name: 'Nami'})-[r]-()
DELETE character, r
```

OUTPUT:





RESULT:

PROGRAM:

Create nodes for characters:

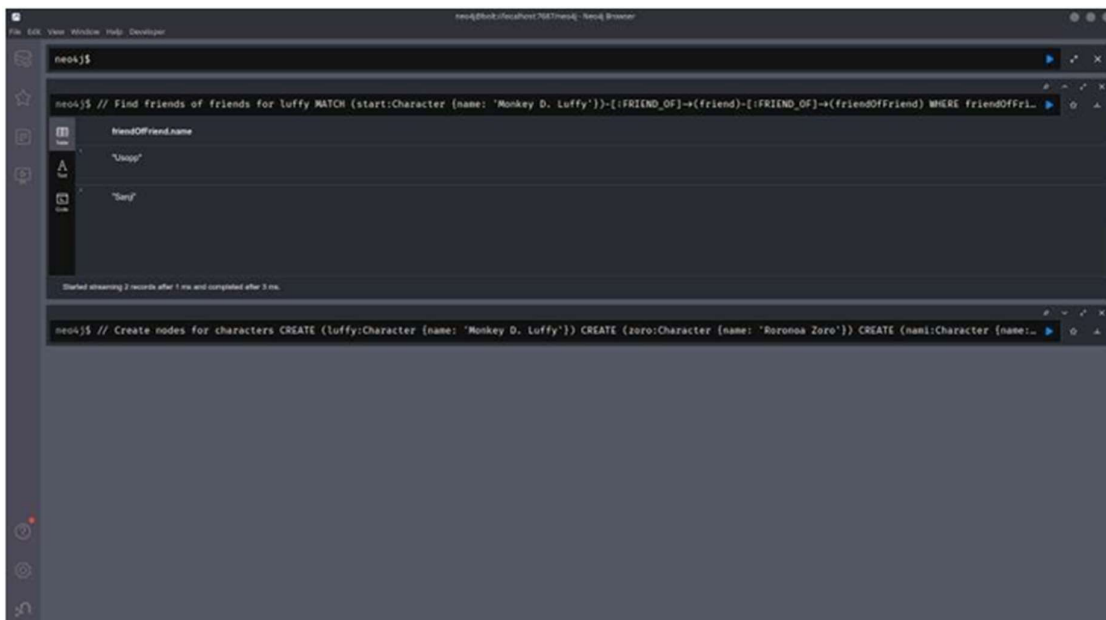
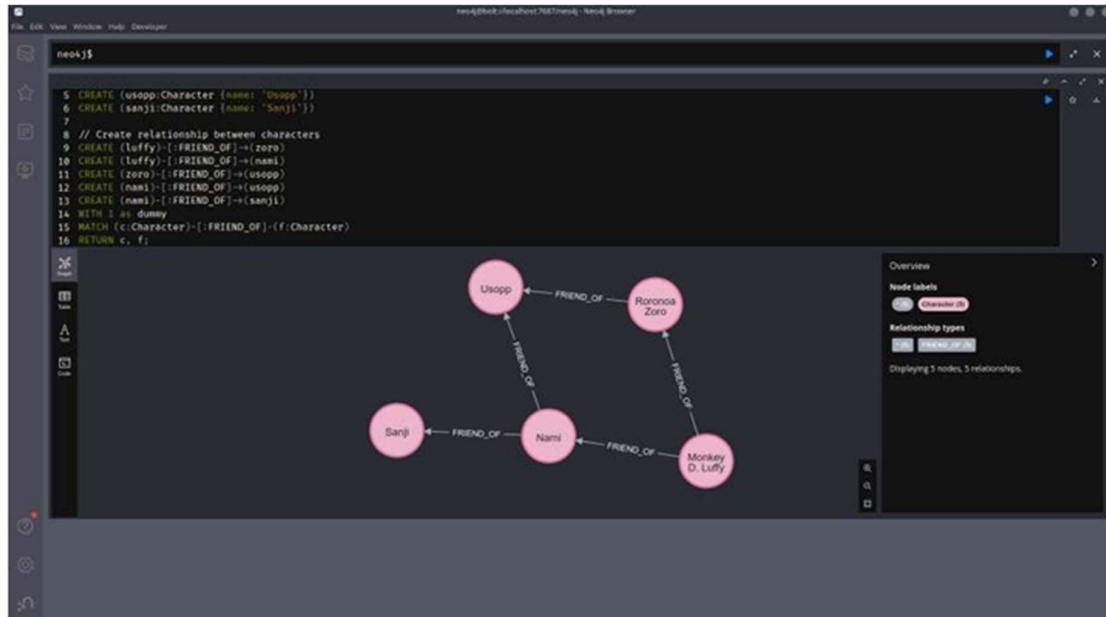
```
// Create nodes for characters
CREATE (luffy:Character {name: 'Monkey D. Luffy'})
CREATE (zoro:Character {name: 'Roronoa Zoro'}) CREATE
(nami:Character {name: 'Nami'})
CREATE (usopp:Character {name: 'Usopp'}) CREATE
(sanji:Character {name: 'Sanji'})

// Create relationship between characters CREATE
(luffy)-[:FRIEND_OF]→(zoro) CREATE
(luffy)-[:FRIEND_OF]→(nami) CREATE
(zoro)-[:FRIEND_OF]→(usopp) CREATE
(nami)-[:FRIEND_OF]→(usopp) CREATE
(nami)-[:FRIEND_OF]→(sanji) WITH 1 as
dummy
MATCH (c:Character)-[:FRIEND_OF]-(f:Character)
RETURN c, f;
```

Finding friends of friends

```
// Find friends of friends for luffy
MATCH (start:Character {name: 'Monkey D. Luffy'})-[:FRIEND_OF]→(friend)-
[:FRIEND_OF]→(friendOfFriend)
WHERE friendOfFriend <> start RETURN
DISTINCT friendOfFriend.name
```


OUTPUT:



RESULT:

PROGRAM:

app.py:

```
from flask import Flask, render_template, request, redirect, url_for
import re
app = Flask(__name__)
user_data = {
    "luffy": {"name": "Monkey D. Luffy", "role": "Captain", "goal": "King of pirates"},
    "zoro": {"name": "Roronoa Zoro", "role": "Swordsman", "goal": "World's greatest swordsman"},
    "nami": {"name": "Nami", "role": "Navigator", "goal": "Map the entire world"},
    "usopp": {"name": "Usopp", "role": "Sniper", "goal": "Brave warrior of the sea"},
    "sanji": {"name": "Sanji", "role": "Chef", "goal": "Find the All Blue"},
    "chopper": {"name": "Tony Tony Chopper", "role": "Doctor", "goal": "Cure any disease"},
    "robin": {"name": "Nico Robin", "role": "Archaeologist", "goal": "Learn the true history"},
    "franky": {"name": "Franky", "role": "Shipwright", "goal": "Build the best ship"},
    "brook": {"name": "Brook", "role": "Musician", "goal": "Reunite with Laboon"},
    "jinbe": {"name": "Jinbe", "role": "Helmsman", "goal": "Achieve true justice"},
}

def query_sanitizer(query):
    sanitized_query = re.sub(r'[^\w\s]', '', query.strip()) or "query"
    return sanitized_query

@app.route("/")
def index():
    return render_template("index.html", users=user_data.items())

@app.route("/search", methods=["POST"])
def search():
    query = request.form.get("search_query")
    return redirect(url_for("search_results", query=query_sanitizer(query)))

@app.route("/search/<query>")
def search_results(query):
    results = [(key, user) for key, user in user_data.items() if query.lower() in user['name'].lower()]
    return render_template("search_results.html", query=query, results=results)

if __name__ == '__main__':
    app.run(debug=True)
```

templates/index.html:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Secure Search</title>
    <link rel="stylesheet" href="{{ url_for('static', filename='styles.css') }}">
</head>
<body>
    <header>
        <form action="/search" method="post">
            <label for="search_query">Search:</label>
            <input type="text" name="search_query" id="search_query" placeholder="Type here..
required">
            <button type="submit">Search</button>
        </form>
```

```

    </header>
    <div class="users-container">
      <h3>Your Friends:</h3>
      <br />
      <div class="users">
        <ul>
          {% for member, details in users %}
            <li>{{ details.name }}</li>
            <br />{% endfor %}
          </ul>
        </div></div>
      </body>
    </html>

```

templates/search_results.html:

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Search Results</title>
  <link rel="stylesheet" href="{{ url_for('static', filename='styles.css') }}">
</head>
<body>
  <h1>Search Results for "{{ query }}"</h1>
  <div class="results-container">
    <section>
      <ul>
        {% for member, details in results %}
          <li>
            <h3>{{ details.name }}</h3>
            <ul>
              <li><span>Role: </span>{{ details.role }}</li>
              <li><span>Dream: </span>{{ details.goal }}</li>
            </ul>
          </li>
          {% endfor %}
        </ul>
      </section>
    </div>
  </body>
</html>

```

static/styles.css:

```

* {
  padding: 0px;
  margin: 0px;
}
.form-body { display:
  flex;
  align-items: center;
  place-content: center;
  place-items: center;
  margin-top: 5%;

```

```

    flex-direction: column;
    padding: 30px;
}
.form-container {
    display: flex;
}

.form-container form {
    display: flex;
    flex-direction: column;
}
.form-container form input[type="text"], input[type="email"], input[type="password"] {width:
    80%;
    border: none;
    border-bottom: 1px solid grey;
    height: 30px;
    outline: none;
}
.checkboxes { display:
    flex;
    flex-direction: row;
    margin-top: 10px;
    padding: 3px;
}
select {
    margin-bottom: 10px;
}
.form-body h2 {
    margin-bottom: 20px;
}
button {
    width: 90px;
}
.result-body {
    padding: 30px;
}

```

PROJECT STRUCTURE: (Just For Ref.)

```

.
├── app.py
├── static
│   └── styles.css
├── templates
│   ├── index.html
│   └── search_results.html

```

2 directories, 4 files

Execution (Python (Programming Language)):

```

$ pip3 install Flask
$ python3 app.py

```

OUTPUT:



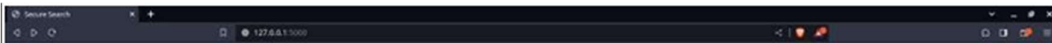
Your Friends:

- Monkey D. Luffy
- Roronoa Zoro
- Nami
- Usopp
- Sanji
- Tony Tony Chopper
- Nico Robin
- Franky
- Brook
- Jube



Search Results for "zoro"

- Roronoa Zoro
- Ruler: Swardsmen
- Deviant: World's greatest swordsmen



Your Friends:

- Monkey D. Luffy
- Roronoa Zoro
- Nami
- Usopp
- Sanji
- Tony Tony Chopper
- Nico Robin
- Franky
- Brook
- Jube



Search Results for "scriptalert1script"

RESULT:

PROGRAM:

app.py:

```
from flask import Flask, render_template, request
import re

app = Flask(__name__)

@app.route("/")
def index():
    return render_template("index.html")

@app.route("/result", methods=["POST"])
def result():
    username = request.form.get("username")
    password = request.form.get("password")
    _2fa = request.form.get("2fa")
    private = request.form.get("private")
    fields_to_check = ["priv_activity", "priv_pfp", "priv_bio", "priv_call"]
    privacy_values = {field: request.form.get(field) for field in fields_to_check}

    security_level = sum([
        len(password) >= 8,
        bool(re.compile(r'[^a-zA-Z0-9\s]').search(password)), bool(re.compile(r'\d').search(password)),
        bool(_2fa),
    ])

    privacy_level = sum([
        bool(private),
        sum(2 if value == "nobody" else 1 for value in privacy_values.values() if value ==
"nobody"),
        sum(1 for value in privacy_values.values() if value == "friends"),
    ])

    sec_ratio = "{:.2f}/10".format((security_level / 4) * 10)
    priv_ratio = "{:.2f}/10".format((privacy_level / 9) * 10)

    data = {
        "username": username,
        "sec_ratio": sec_ratio,
        "priv_ratio": priv_ratio
    }

    return render_template("detected_result.html", data=data)

if __name__ == "__main__":
    app.run(debug=True)
```

templates/index.html:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
```

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Security and Privacy Detector</title>
<link rel="stylesheet" href="{{ url_for('static', filename='styles.css') }}">
</head>
<body class="form-body">
  <h2>Security and Privacy Detector</h2>

  <div class="form-container">
    <form action="/result" method="post">
      <input type="text" placeholder="Username" name="username" required>
      <input type="text" placeholder="First Name" name="first_name">
      <input type="text" placeholder="Last Name" name="last_name">
      <input type="email" placeholder="Email" name="email">

      <!-- Security -->
      <input type="password" placeholder="Password" name="password" required>

      <div class="checkboxes">
        <input type="checkbox" value="2fa" name="2fa" id="2fa">
        <label for="2fa">Two-Step Verification</label>
      </div>

      <!-- Privacy -->
      <div class="checkboxes">
        <input type="checkbox" value="private" id="private" name="private">
        <label for="private">Private Account</label>
      </div>

      <label for="priv_email">Who can see my email</label>
      <select name="priv_email" id="priv_email">
        <option value="everybody">Everybody</option>
        <option value="friends">My Friends</option>
        <option value="nobody">Nobody</option>
      </select>

      <label for="priv_activity">Last seen and online</label>
      <select name="priv_activity" id="priv_activity">
        <option value="everybody">Everybody</option>
        <option value="friends">My Friends</option>
        <option value="nobody">Nobody</option>
      </select>

      <label for="priv_pfp">Who can see my profile photo</label>
      <select name="priv_pfp" id="priv_pfp">
        <option value="everybody">Everybody</option>
        <option value="friends">My Friends</option>
        <option value="nobody">Nobody</option>
      </select>

      <label for="priv_bio">Who can see my bio</label>
      <select name="priv_bio" id="priv_bio">
        <option value="everybody">Everybody</option>
        <option value="friends">My Friends</option>
        <option value="nobody">Nobody</option>
      </select>
```



```

        <label for="priv_call">Who can call me</label>
        <select name="priv_call" id="priv_call">
            <option value="everybody">Everybody</option>
            <option value="friends">My Friends</option>
            <option value="nobody">Nobody</option>
        </select>

        <button type="submit">Detect</button>
    </form>
</div>
</body>
</html>

```

templates/detected_result.html:

```

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Security and Privacy Results</title>
    <link rel="stylesheet" href="{{ url_for('static', filename='styles.css') }}">
</head>
<body class="result-body">
    <h3>Hello, {{data.username}}...</h3>

    <br>

    <ul>
        <li><span style="font-weight: 700;">Your security level:</span>
        {{data.sec_ratio}}</li>
        <li><span style="font-weight: 700;">Your privacy level :</span>
        {{data.priv_ratio}}</li>
    </ul>
</body>
</html>

```

static/styles.css:

```

* {
    padding: 0px;
    margin: 0px;
}

.form-body { display:
    flex;
    align-items: center;
    place-content: center;
    place-items: center;
    margin-top: 5%;
    flex-direction: column;
    padding: 30px;
}

```

```

.form-container {
  display: flex;
}

.form-container form {
  display: flex;
  flex-direction: column;
}

.form-container form input[type="text"], input[type="email"], input[type="password"] {width:
  80%;
  border: none;
  border-bottom: 1px solid grey;
  height: 30px;
  outline: none;
}

.checkboxes { display:
  flex;
  flex-direction: row;
  margin-top: 10px;
  padding: 3px;
}

select {
  margin-bottom: 10px;
}

.form-body h2 {
  margin-bottom: 20px;
}

button {
  width: 90px;
}

.result-body {
  padding: 30px;
}

```

PROJECT STRUCTURE: (Just For Ref.)

```

.
├── app.py
├── static
│   └── styles.css
└── templates
    ├── detected_result.html
    └── index.html

```

2 directories, 4 files

Execution (Python (Programming Language)):

```

$ pip3 install Flask
$ python3 app.py

```

OUTPUT:

The screenshot shows a web browser window with the title "Security and Privacy Detector". The address bar displays "127.0.0.1:5000". The main content area has a heading "Security and Privacy Detector" and a form with the following fields and options:

- username: student
- password: student
- Last Name: student
- Email: student@ocean.org
- ☒ Two-Step Verification
- ☒ Private Account
- Who can see my email: Nobody
- Last seen and online: Nobody
- Who can see my profile photo: Nobody
- Who can see my bio: Nobody
- Who can call me: Nobody
-

The screenshot shows a web browser window with the title "Security and Privacy Results". The address bar displays "127.0.0.1:5000/result". The main content area displays the following information:

Hello, student...

- Your security level: 10.00/10
- Your privacy level: 10.00/10

Security and Privacy Detector

student

student

Last Name

student@victor.org

www

☐ Two-Step Verification

☒ Private Account

Who can see my email

My Friends

Last seen and online

Everyone

Who can see my profile photo

Nobody

Who can see my bio

Nobody

Who can call me

Everyone

Detect

Security and Privacy Results

127.0.0.1:3000/results

Hello, student...

- Your security level: 2.50/10
- Your privacy level: 5.50/10

RESULT: