Initial setup

1. Install virtualenv

```
pip install virtualenv
```

Will be helpful for collaboration with other team member.

2. Activate environment

```
virtualenv env
# For windows
env\Scripts\activate
# For mac
source env/bin/activate
```

3. Create app.py

https://flask.palletsprojects.com/en/2.3.x/quickstart/

```python
from flask import Flask

app = Flask(__name__)

@app.route("/")
def hello_world():
    return "<p>Hello, World!</p>"


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

Templates files

1. Create a folder **templates**

2. Inside templates, create index.html

3. app.py

```python
from flask import Flask, render_template

app = Flask(__name__)

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



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

Jinja2 Templates

Greetings

index.html

```html
<html>
  <head>
    <title>Greetings</title>
  </head>

  <body>
    <h1>Hello,{{name}}!</h1>
  </body>
</html>
```

app.py

```python
from flask import Flask, render_template

app = Flask(__name__)

@app.route("/")
def hello_world():
    user_name="Deepthi"
    return render_template("index.html",name=user_name)



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

Odd or Even

app.py

```python
from flask import Flask, render_template

app = Flask(__name__)

@app.route("/")
def hello_world():
    num=12
    return render_template("index.html",number=num)



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

index.html

```html
<html>
  <head>
    <title>Even or Odd number</title>
  </head>

  <body>
    {% if number%2==0 %}
    <h1>This is an even number.</h1>
    {% else %}
    <h1>This is an odd number.</h1>
    {% endif %}
  </body>
</html>
```

Static files

1. Create a folder static

2. Create a folder css under static folder

3. Create a file style.css

4. style.css

```css
body {
  margin: 0;
  font-family: sans-serif;
}
```

5. Link css and html

app.py

```html
<html>
  <head>
    <title>Even or Odd number</title>
    <link
      rel="stylesheet"
      href="{{ url_for('static', filename='css/style.css') }}"
    />
  </head>

  <body>
    {% for number in numbers%} {% if number%2==0 %}
    <p>{{number}} is an even number.</p>
    {% else %}
    <p>{{number}} is an odd number.</p>
    {% endif %} {% endfor %}
  </body>
</html>
```

User Input

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

app = Flask(__name__)

@app.route('/', methods=['GET', 'POST'])
def index():
    user_input = None
    if request.method == 'POST':
        user_input = request.form['user_input']
    return render_template('index.html', user_input=user_input)

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

```html
<!DOCTYPE html>
<html>
<head>
    <title>Input and Display</title>
</head>
```

```html
<body>
    <h1>Input and Display Example</h1>
    <form method="POST">
        <label for="user_input">Enter something:</label>
        <input type="text" id="user_input" name="user_input">
        <button type="submit">Submit</button>
    </form>
    {% if user_input %}
        <p>You entered: {{ user_input }}</p>
    {% endif %}
</body>
</html>
```

Database

```python
from flask import Flask, render_template, request, redirect
from flask_sqlalchemy import SQLAlchemy

app = Flask(__name__)
app.config['SQLALCHEMY_DATABASE_URI'] = 'sqlite:///users.db'
db = SQLAlchemy(app)

class User(db.Model):
    id = db.Column(db.Integer, primary_key=True)
    username = db.Column(db.String(80), unique=True, nullable=False)
    password = db.Column(db.String(80), nullable=False)

@app.route('/', methods=['GET', 'POST'])
@app.route('/', methods=['GET', 'POST'])
def index():
    if request.method == 'POST':
        username = request.form.get('username', '')
        password = request.form.get('password', '')
        new_user = User(username=username, password=password)
        db.session.add(new_user)
        db.session.commit()
        return redirect('/')
    return render_template('index.html')

if __name__ == '__main__':
    with app.app_context():
        db.create_all()
app.run(debug=True)
```

```html
<!DOCTYPE html>
<html>
  <head>
    <title>User Registration</title>
  </head>
  <body>
    <h1>User Registration</h1>
    <form method="POST">
      <label for="username">Username:</label>
```

```html
        <input type="text" id="username" name="username" required />
        <br />
        <label for="password">Password:</label>
        <input type="password" id="password" name="password" required />
        <br />
        <button type="submit">Register</button>
      </form>
    </body>
</html>
```

```
sqlite3 .\users.db
.tables
select * from tables
```

Final touch up

```css
body {
  font-family: Arial, sans-serif;
  background-color: #f2f2f2;
  margin: 0;
  padding: 0;
  display: flex;
  justify-content: center;
  align-items: center;
  min-height: 100vh;
}
.container {
  background-color: white;
  border-radius: 5px;
  box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
  padding: 20px;
  width: 300px;
}
h1 {
  text-align: center;
}
label {
  display: block;
  font-weight: bold;
  margin-bottom: 5px;
}
input[type="text"],
input[type="password"] {
  width: 100%;
  padding: 8px;
  margin-bottom: 10px;
  border: 1px solid #ccc;
  border-radius: 3px;
}
button {
  width: 100%;
  background-color: #3498db;
  color: white;
```

```
  padding: 10px;
  border: none;
  border-radius: 3px;
  cursor: pointer;
}
button:hover {
  background-color: #2980b9;
}
```

```html
<!DOCTYPE html>
<html>
  <head>
    <title>User Registration</title>
    <style>
      body {
        font-family: Arial, sans-serif;
        background-color: #f2f2f2;
        margin: 0;
        padding: 0;
        display: flex;
        justify-content: center;
        align-items: center;
        min-height: 100vh;
      }
      .container {
        background-color: white;
        border-radius: 5px;
        box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
        padding: 20px;
        width: 300px;
      }
      h1 {
        text-align: center;
      }
      label {
        display: block;
        font-weight: bold;
        margin-bottom: 5px;
      }
      input[type="text"],
      input[type="password"] {
        width: 100%;
        padding: 8px;
        margin-bottom: 10px;
        border: 1px solid #ccc;
        border-radius: 3px;
      }
      button {
        width: 100%;
        background-color: #3498db;
        color: white;
        padding: 10px;
        border: none;
        border-radius: 3px;
```

```html
      cursor: pointer;
    }
    button:hover {
      background-color: #2980b9;
    }
  </style>
</head>
<body>
  <div class="container">
    <h1>User Registration</h1>
    <form method="POST">
      <label for="username">Username:</label>
      <input type="text" id="username" name="username" required />
      <label for="password">Password:</label>
      <input type="password" id="password" name="password" required />
      <button type="submit">Register</button>
    </form>
  </div>
</body>
</html>
```