

**1. Create a Flask application that displays "Hello, World!" on the homepage.**

```
from flask import Flask
app = Flask(__name__)
@app.route("/")
def hello():
    return "Hello, World!"
if __name__ == "__main__":
    app.run()
```

**2. Write a Flask route that takes a name parameter and returns "Hello, [name]!" as plain text.**

```
from flask import Flask
app = Flask(__name__)
@app.route("/hello/<name>")
def hello(name):
    return f"Hello, {name}!"
if __name__ == "__main__":
    app.run()
```

**3. Write a Flask route that takes a number parameter and returns the square of that number as plain text.**

```
from flask import Flask
app = Flask(__name__)
@app.route("/square/<int:num>")
def square(num):
    return str(num**2)
if __name__ == "__main__":
    app.run()
```

**4. Write a Flask route that displays a simple HTML form that asks for a name and returns "Hello, [name]!" when submitted.**

```
from flask import Flask, request, render_template
app = Flask(__name__)
@app.route("/", methods=["GET", "POST"])
def hello():
    if request.method == "POST":
        name = request.form["name"]
        return f"Hello, {name}!"
    else:
        return render_template("index.html")
if __name__ == "__main__":
    app.run()
```

The corresponding `index.html` file should contain the following:

```
<!doctype html>
<html>
<body>
<form method="POST">
<label for="name">Name:</label>
<input type="text" id="name" name="name">
```

```

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

```

**5. Write a Flask route that displays a list of names in an HTML unordered list.**

```

from flask import Flask, render_template
app = Flask(__name__)
@app.route("/names")
def names():
    names = [("Alice", 25), ("Bob", 30), ("Charlie", 35)]
    return render_template("names.html", names=names)
if __name__ == "__main__":
    app.run()

```

The corresponding `names.html` file should contain the following:

```

<!doctype html>
<html>
  <body>
    <table>
      <thead>
        <tr>
          <th>Name</th>
          <th>Age</th>
        </tr>
      </thead>
      <tbody>
        {% for name in names %}
          <tr>
            <td>{{ name[0] }}</td>
            <td>{{ name[1] }}</td>
          </tr>
        {% endfor %}
      </tbody>
    </table>
  </body>
</html>

```

**6. Write a Flask route that displays a list of names in a table.**

```

from flask import Flask, render_template
app = Flask(__name__)
@app.route("/names")
def names():
    names = ["Alice", "Bob", "Charlie"]
    return render_template("names.html", names=names)
if __name__ == "__main__":
    app.run()

```

The corresponding `names.html` file should contain the following:

```

<!doctype html>
<html>
  <body>
    <form method="POST">
      <label for="name">Name:</label>
      <select id="name" name="name">
        {% for name in names %}
          <option value="{{ name }}">{{ name }}</option>
        {% endfor %}
      </select>
      <input type="submit" value="Submit">
    </form>
  </body>
</html>

```

### 7. Write a Flask route that displays a list of names in a dropdown menu.

```

from flask import Flask, render_template
app = Flask(__name__)
@app.route("/names")
def names():
    names = ["Alice", "Bob", "Charlie"]
    return render_template("names.html", names=names)
if __name__ == "__main__":
    app.run()

```

The corresponding `names.html` file should contain the following:

```

<!doctype html>
<html>
  <body>
    <form method="POST">
      <label for="name">Name:</label>
      <select id="name" name="name">
        {% for name in names %}
          <option value="{{ name }}">{{ name }}</option>
        {% endfor %}
      </select>
      <input type="submit" value="Submit">
    </form>
  </body>
</html>

```

### 8. Write a Flask route that receives data through a POST request and returns the data in JSON format.

```

from flask import Flask, request, jsonify
app = Flask(__name__)
@app.route("/data", methods=["POST"])
def data():
    data = request.get_json()
    return jsonify(data)

```

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

**9. Write a Flask route that receives data through a POST request and returns the data in JSON format.**

```
from flask import Flask, send_from_directory  
app = Flask(__name__)  
@app.route("/static/<path:filename>")  
def static_file(filename):  
    return send_from_directory("static", filename)  
if __name__ == "__main__":  
    app.run()
```

**10. Write a Flask route that redirects the user to a different URL.**

```
from flask import Flask, redirect  
app = Flask(__name__)  
@app.route("/")  
def index():  
    return redirect("/hello")  
@app.route("/hello")  
def hello():  
    return "Hello, World!"  
if __name__ == "__main__":  
    app.run()
```