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

```python
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.

```python
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.

```python
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.

```python
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:

```html
<!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:

```html
<!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.**

```python
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:

```html
<!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.**

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

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

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

```python
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.**

```python
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()
```