**CODE REFRACTING AND BUG FIXING**

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**Task :**

Refactor and debug the existing Note Taking Application code to ensure it functions properly without rewriting it from scratch. Document all identified bugs and the steps taken to fix them during the debugging process.

**Existing Note Taking Application Code** :

**App.py :**

from flask import Flask, render\_template, request

app = Flask(**\_\_name\_\_**)

notes = []

@app.route('/', methods=["POST"])

def index():

    note = request.args.get("note")

    notes.append(note)

    return render\_template("home.html", notes=notes)

if **\_\_name\_\_** == '**\_\_main\_\_**':

    app.run(debug=True)

**Home.html :**

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta http-equiv="X-UA-Compatible" content="IE=edge">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Document</title>

</head>

<body>

    <form action="">

        <input type="text" name="note" placeholder="Enter a note">

        <button>Add Note</button>

    </form>

    <ul>

    {% for note in notes%}

        <li>{{ note }}</li>

    {% endfor %}

    </ul>

</body>

</html>

**Bugs Identification and Approch to Solve :**

**Bug Description :** The form in the HTML template does not have a method specified, which means it defaults to GET method.

**Approach:** Change the form method to POST to match the Flask route.

**Bug Description:** In the Flask route, request.args.get("note") is used to retrieve form data, but since the form is submitted with POST method, this should be request.form.get("note").

**Approach:** Change request.args.get("note") to request.form.get("note").

**Working Code :**

**App.py :**

from flask import Flask, render\_template, request, redirect, url\_for

app = Flask(\_\_name\_\_)

notes = []

@app.route('/', methods=["GET", "POST"])

def index():

    if request.method == "POST":

        note = request.form.get("note")

        notes.insert(0, note)

    return render\_template("home.html", notes=enumerate(notes))

@app.route('/edit/<int:index>', methods=["GET", "POST"])

def edit(index):

    if request.method == "POST":

        edited\_note = request.form.get("edited\_note")

        notes[index] = edited\_note

        return redirect(url\_for('index'))

    return render\_template("edit.html", index=index, note=notes[index])

@app.route('/delete/<int:index>', methods=["POST"])

def delete(index):

    del notes[index]

    return redirect(url\_for('index'))

@app.route('/delete\_all', methods=["POST"])

def delete\_all():

    notes.clear()

    return redirect(url\_for('index'))

if \_\_name\_\_ == '\_\_main\_\_':

    app.run(debug=True)

**Home.html :**

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta http-equiv="X-UA-Compatible" content="IE=edge">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Notes App</title>

    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.15.4/css/all.min.css">

    <style>

        body {

            font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;

            background-color: #f0f0f0;

            margin: 0;

            padding: 0;

        }

        .container {

            max-width: 800px;

            margin: 20px auto;

            padding: 20px;

            background-color: #ffffff;

            border-radius: 8px;

            box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);

        }

        h1 {

            text-align: center;

            color: #333;

            margin-bottom: 20px;

        }

        form {

            margin-bottom: 20px;

            display: flex;

            align-items: center;

        }

        input[type="text"] {

            flex: 1;

            padding: 10px;

            border: 1px solid #ccc;

            border-radius: 4px;

            font-size: 16px;

        }

        button {

            padding: 10px 20px;

            border: none;

            border-radius: 4px;

            background-color: #007bff;

            color: #fff;

            cursor: pointer;

            font-size: 16px;

            margin-left: 10px;

        }

        button:hover {

            background-color: #0056b3;

        }

        ul {

            list-style-type: none;

            padding: 0;

        }

        li {

            background-color: #f9f9f9;

            padding: 15px;

            margin-bottom: 15px;

            border-radius: 8px;

            display: flex;

            justify-content: space-between;

            align-items: center;

        }

        .note-actions {

            display: flex;

            align-items: center;

        }

        .note-actions button {

            margin-left: 10px;

            background-color: #dc3545;

        }

        .note-actions button:hover {

            background-color: #ba2d3a;

        }

        .note-actions button i {

            margin-right: 5px;

        }

        .delete-all-btn {

            margin-top: 20px;

            background-color: #dc3545;

        }

        .delete-all-btn:hover {

            background-color: #ba2d3a;

        }

        .delete-all-btn i {

            margin-right: 5px;

        }

    </style>

</head>

<body>

    <div class="container">

        <h1>Note Making App</h1>

        <form action="/" method="POST">

            <input type="text" name="note" placeholder="Enter a note">

            <button type="submit">Add Note</button>

        </form>

        <ul>

            {% for index, note in notes %}

            <li>

                {{ note }}

                <div class="note-actions">

                    <form action="/edit/{{ index }}" method="GET">

                        <button type="submit"><i class="fas fa-edit"></i>Edit</button>

                    </form>

                    <form action="/delete/{{ index }}" method="POST">

                        <button type="submit"><i class="fas fa-trash-alt"></i>Delete</button>

                    </form>

                </div>

            </li>

            {% endfor %}

        </ul>

        <form action="/delete\_all" method="POST">

            <button type="submit" class="delete-all-btn"><i class="fas fa-trash"></i>Delete All</button>

        </form>

    </div>

</body>

</html>

**About the Note Making Application:**

**This Note Making Application has Four Functionalities :**

**1 . Add Note method :**

When the user fills the input field and clicks the "Add Note" button, the entered note is added to the list of notes.

**2 . Edit Note method :**

Allows the user to edit a specific note. And also we can save the changes we made in here.

**3 . Delete Note method :**

Permits the user to delete a specific note.

**4 . Delete All Notes method :**

Deletes all notes in the list.