1. What was broken in the original app

Let's go through the bugs **one by one**, like a code review.

Bug 1: Wrong HTTP method handling

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

- Your route only accepts **POST** requests
- But when the page loads initially, the browser makes a **GET** request
- Result: **405 Method Not Allowed**

Fix: Allow both `GET` and `POST`

Bug 2: Using `request.args` instead of `request.form`

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

- `request.args` is for **query parameters** (URL)
- HTML forms with `method="POST"` send data via **form body**

Fix: Use `request.form.get("note")`

Bug 3: Appending empty notes

- If the user clicks the button without typing anything
- `None` or empty values get added to the list

Fix: Validate input before appending

Bug 4: No GET handler to render page initially

- The template is only rendered after POST
- The page must also render on GET

Fix: Render template for both GET and POST

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2. Refactored Flask Application (Fixed)

app.py

```
from flask import Flask, render_template, request

app = Flask(__name__)

notes = []

@app.route('/home', methods=['GET', 'POST'])
def home():
    if request.method == 'POST':
        note = request.form.get('note')
        if note and note.strip():
            notes.append(note.strip())

    return render_template('home.html', notes=notes)


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

---

3. HTML Template (UI Logic)

templates/home.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Notes App</title>
</head>
<body>
    <h2>My Notes</h2>

    <form method="POST" action="/home">
        <input type="text" name="note" placeholder="Enter a note" required>
        <button type="submit">Add Note</button>
```

```
    </form>

    <ul>
        {% for note in notes %}
            <li>{{ note }}</li>
        {% endfor %}
    </ul>
</body>
</html>
```

---

4. How the Flow Works (Important for Understanding)

1. Browser opens `/home` → **GET request**
2. Flask renders `home.html` with current notes
3. User types a note and clicks **Add Note**
4. Form sends **POST request** to `/home`
5. Flask:
    - Reads data from `request.form`
    - Appends note to list
    - Re-renders the same page
6. Notes appear as an unordered list

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5. Key Flask Concepts You Just Practiced

- GET vs POST
- `request.args` vs `request.form`
- Single-route app handling multiple methods
- Server-side state (`notes` list)
- Template rendering with Jinja2

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6. Important Real-World Note (Mentor Tip)

This app stores notes **in memory**.

- Restart Flask → notes disappear
- Multiple users share the same notes

That's okay for learning.

Next upgrade steps (when ready):

- Use a database (SQLite)
- Use sessions per user
- Add delete / edit functionality

If you want, next I can:

- Convert this into a **class-based Flask app**
- Add **delete buttons** for each note
- Explain this exactly like an **exam answer**

❌ What's broken in your HTML (and why)

Bug 1: Form has no method

```
<form action="">
```

- Default method = **GET**
- But your Flask route expects **POST**
- Result: Flask never receives the note correctly

✅ **Fix:** Add `method="POST"`

Bug 2: Form has no action route

```
<form action="">
```

- Empty action submits to the same URL **by accident**
- Works sometimes, but this is bad practice and confusing in exams/projects

✅ **Fix:** Explicitly point to `/home`

⚠️ Minor Improvement (Not a bug, but good practice)

```
<button>Add Note</button>
```

- Browser *usually* treats this as submit
- But better to be explicit

✅ Use:

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

✅ Fixed HTML (Correct & Clean)

```
<!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>
</head>
<body>

    <form method="POST" action="/home">
        <input type="text" name="note" placeholder="Enter a note"
required>
        <button type="submit">Add Note</button>
    </form>

    <ul>
        {% for note in notes %}
            <li>{{ note }}</li>
        {% endfor %}
    </ul>
```

```
</body>
</html>
```

🔁 How this connects to Flask (important)

- `name="note"` → `request.form.get("note")`
- `method="POST"` → Flask receives form data correctly
- `/home` → matches your route
- `notes` → passed from Flask to template