1. Create a Flask application with an `/api` route. When this route is accessed, it should return a JSON list. The data should be stored in a backend file, read from it, and sent as a response.

Answer :-

Structure :-

```
flask_app/

│

├── app.py

├── data.json

└── templates/

    ├── form.html

    └── success.html
```

JSON :-

```
[

  {"name": "Alice", "email": "alice@example.com"},

  {"name": "Bob", "email": "bob@example.com"}

]
```

Flask Backend :-

```
from flask import Flask, jsonify, render_template, request, redirect, url_for

import json

import pymongo
```

```python
from pymongo.errors import PyMongoError


app = Flask(__name__)


# MongoDB Atlas Configuration
MONGO_URI = "your_mongodb_atlas_connection_string"  # Replace this with your real connection string
client = pymongo.MongoClient(MONGO_URI)
db = client["my_database"]
collection = db["submissions"]


# --- API Route ---
@app.route('/api', methods=['GET'])
def api():
    try:
        with open('data.json', 'r') as file:
            data = json.load(file)
        return jsonify(data)
    except Exception as e:
        return jsonify({"error": str(e)}), 500
```

```python
# --- Form Route ---
@app.route('/', methods=['GET', 'POST'])
def form():
    error = None
    if request.method == 'POST':
        name = request.form.get('name')
        email = request.form.get('email')

        if not name or not email:
            error = "Both Name and Email are required."
        else:
            try:
                collection.insert_one({"name": name, "email": email})
                return redirect(url_for('success'))
            except PyMongoError as e:
                error = f"Error inserting into database: {e}"

    return render_template('form.html', error=error)


# --- Success Page Route ---
@app.route('/success')
```

```
def success():
    return render_template('success.html')
```

2. Create a form on the frontend that, when submitted, inserts data into MongoDB Atlas. Upon successful submission, the user should be redirected to another page displaying the message **"Data submitted successfully"**. If there's an error during submission, display the error on the same page without redirection.

Answer:-

Frontend Form :-

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Submit Form</title>
</head>
<body>
    <h1>Submit Your Information</h1>
    {% if error %}
        <p style="color: red;">{{ error }}</p>
    {% endif %}
    <form method="post">
        <label>Name: <input type="text" name="name" required></label><br><br>
        <label>Email: <input type="email" name="email" required></label><br><br>
        <button type="submit">Submit</button>

    </form>

</body>

</html>
```

templates/success.html – Success Message Page :-

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Success</title>
</head>
<body>
    <h2>Data submitted successfully</h2>
</body>
</html>
```