**3 (i) - Weather App**

**Aim:**

To design a Weather Application using React and Axios that fetches and displays real-time weather details of a city from the OpenWeatherMap API.

**Algorithm:**

1. Start a new React project and install Axios for making API requests.
2. Initialize state variables for storing city input, weather data, and error message using useState.
3. Create an input field for the user to enter the city name and a button to trigger the weather fetch.
4. Define an asynchronous function getWeather that:
   * Sends a request to the OpenWeatherMap API with the city name and API key.
   * Stores the response in the weather state if successful.
   * Displays an error message if the city is invalid.
5. Display weather details such as city name, description, temperature, humidity, and wind speed only if the data is available.
6. Apply TailwindCSS classes for styling the application.
7. End.

**Program:**

import { useState } from "react";

import axios from "axios";

export default function Weather() {

const [city, setCity] = useState("");

const [weather, setWeather] = useState(null);

const [error, setError] = useState(null);

const API\_KEY = "2753a19d7ce511e1626297e0651d625e";

const getWeather = async () => {

try {

setError(null);

const response = await axios.get(

https://api.openweathermap.org/data/2.5/weather?q=${city}&appid=${API\_KEY}&units=metric

);

setWeather(response.data);

} catch (err) {

setWeather(null);

setError("City not found");

}

};

return (

<div className="flex flex-col items-center justify-center min-h-screen bg-blue-100 p-6">

<h1 className="text-3xl font-bold mb-4">🌤 Weather App</h1>

<div className="flex gap-2 mb-4">

<input

type="text"

value={city}

onChange={(e) => setCity(e.target.value)}

placeholder="Enter city"

className="p-2 rounded-xl border border-gray-400"

/>

<button

onClick={getWeather}

className="px-4 py-2 bg-blue-500 text-white rounded-xl hover:bg-blue-600"

>

Search

</button>

</div>

{error && <p className="text-red-500">{error}</p>}

{weather && (

<div className="bg-white p-6 rounded-2xl shadow-md text-center">

<h2 className="text-2xl font-semibold">{weather.name}</h2>

<p className="text-lg">{weather.weather[0].description}</p>

<p className="text-3xl font-bold">{weather.main.temp}°C</p>

<p>Humidity: {weather.main.humidity}%</p>

<p>Wind: {weather.wind.speed} m/s</p>

</div>

)}

</div>

);

}

**Result**

* The Weather App is successfully created using React and Axios.
* The user can type a city name, and the app will fetch live weather data (temperature, humidity, wind speed, etc.) from the OpenWeatherMap API.
* If the city name is invalid, an error message **“City not found”** is displayed.