Practical 16

AJAX and Fetch API
Task: Weather Information App

- Objective: Build a weather app that fetches data from a public API.
- Activities:
- Create a form to input a city name.
- Use JavaScript to fetch weather data for the entered city using the Fetch API.
- Display the weather information dynamically on the page.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Weather Forecast App</title>
    <link rel="stylesheet" href="pr16.css">
</head>
<body>
    <div class="container">
        <h1>Weather Forecast</h1>

        <div class="input-section">
            <input type="text" id="cityInput" placeholder="Enter city
name" />
            <button onclick="getWeather()">Get Weather</button>
        </div>

        <!-- Current Weather -->
        <h2>Current Weather</h2>
        <table id="weatherTable" class="styled-table">
            <thead>
                <tr>
                    <th>City</th>
                    <th>Temperature</th>
                    <th>Condition</th>
                </tr>
            </thead>
            <tbody id="weatherBody"></tbody>
        </table>

        <!-- 5-Day Forecast -->
        <h2>5-Day Forecast</h2>
        <table id="forecastTable" class="styled-table">
            <thead>
                <tr>
                    <th>Date</th>
                    <th>Temperature</th>
```

```
                    <th>Condition</th>
                </tr>
            </thead>
            <tbody id="forecastBody"></tbody>
        </table>

        <!-- Country Weather -->
        <div class="input-section">
            <input type="text" id="countryInput" placeholder="Enter country name" />
            <button onclick="getCountryWeather()">Get Country Weather</button>
        </div>

        <h2>Country Weather</h2>
        <table id="countryWeatherTable" class="styled-table">
            <thead>
                <tr>
                    <th>Country</th>
                    <th>Temperature</th>
                    <th>Condition</th>
                </tr>
            </thead>
            <tbody id="countryWeatherBody"></tbody>
        </table>
    </div>

    <script src="pr16.js"></script>
</body>
</html>
```

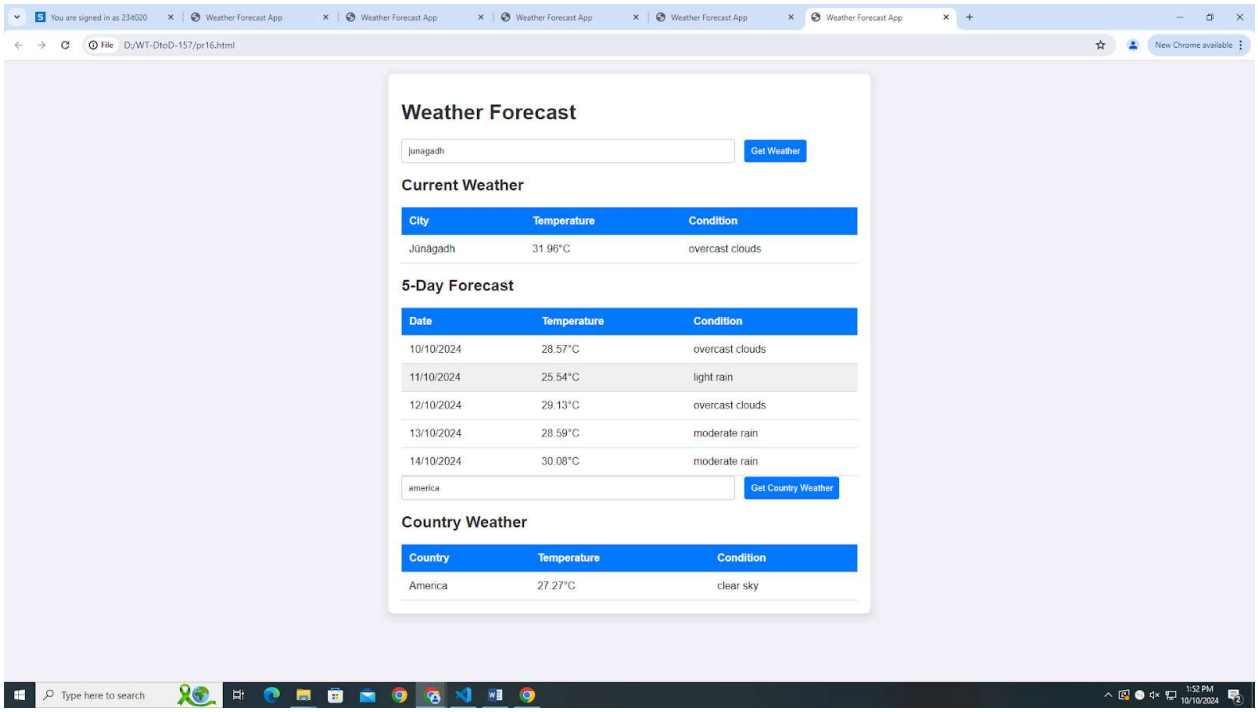
```
body {
    font-family: Arial, sans-serif;
    background-color: #f0f0f5;
}

.container {
    width: 100%;
    max-width: 700px;
    margin: 20px auto;
    background-color: #fff;
    padding: 20px;
    border-radius: 8px;
    box-shadow: 0 4px 10px rgba(0, 0, 0, 0.1);
}
```

```css
h1, h2 {
    color: #333;
}

input[type="text"] {
    padding: 10px;
    width: 70%;
    margin-right: 10px;
    border: 1px solid #ccc;
    border-radius: 4px;
}

button {
    padding: 10px;
    background-color: #007bff;
    color: white;
    border: none;
    cursor: pointer;
    border-radius: 4px;
}

.styled-table {
    width: 100%;
    border-collapse: collapse;
    margin-top: 20px;
}

.styled-table th, .styled-table td {
    padding: 12px;
    text-align: left;
    border-bottom: 1px solid #ddd;
}

.styled-table th {
    background-color: #007bff;
    color: white;
}

.styled-table tr:hover {
    background-color: #f1f1f1;
}
```

```javascript
const API_KEY = 'f5e2523c52ddd4688e77454128deaeaf';
const BASE_URL = 'https://api.openweathermap.org/data/2.5/';

async function getWeather() {
    const city = document.getElementById('cityInput').value;
```

```
    if (!city) {
        alert('Please enter a city name.');
        return;
    }

    try {
        // Fetch current weather
        const weatherResponse = await
fetch(`${BASE_URL}weather?q=${city}&appid=${API_KEY}&units=metric`);
        const weatherData = await weatherResponse.json();
        displayCurrentWeather(weatherData);

        // Fetch 5-day forecast
        const forecastResponse = await
fetch(`${BASE_URL}forecast?q=${city}&appid=${API_KEY}&units=metric`);
        const forecastData = await forecastResponse.json();
        displayForecast(forecastData);

    } catch (error) {
        console.error('Error fetching data:', error);
        alert('Failed to fetch weather data.');
    }
}

const API_KEY = 'f5e2523c52ddd4688e77454128deaeaf';
const BASE_URL = 'https://api.openweathermap.org/data/2.5/';

async function getCountryWeather() {
    const country = document.getElementById('countryInput').value;
    if (!country) {
        alert('Please enter a country name.');
        return;
    }

    try {
        // Fetch current weather for the country
        const countryWeatherResponse = await
fetch(`${BASE_URL}weather?q=${country}&appid=${API_KEY}&units=metric`);
        const countryWeatherData = await countryWeatherResponse.json();
        displayCountryWeather(countryWeatherData);

    } catch (error) {
        console.error('Error fetching country data:', error);
        alert('Failed to fetch country weather data.');
    }
}

function displayCurrentWeather(data) {
```

```
    const weatherBody = document.getElementById('weatherBody');
    weatherBody.innerHTML = `
        <tr>
            <td>${data.name}</td>
            <td>${data.main.temp}°C</td>
            <td>${data.weather[0].description}</td>
        </tr>
    `;
}

function displayForecast(data) {
    const forecastBody = document.getElementById('forecastBody');
    forecastBody.innerHTML = '';

    // Filter daily forecasts
    const dailyForecasts = data.list.filter(item =>
item.dt_txt.includes('12:00:00'));
    dailyForecasts.forEach(forecast => {
        const date = new Date(forecast.dt_txt).toLocaleDateString();
        forecastBody.innerHTML += `
            <tr>
                <td>${date}</td>
                <td>${forecast.main.temp}°C</td>
                <td>${forecast.weather[0].description}</td>
            </tr>
        `;
    });
}

function displayCountryWeather(data) {
    const countryWeatherBody = document.getElementById('countryWeatherBody');
    countryWeatherBody.innerHTML = `
        <tr>
            <td>${data.name}</td>
            <td>${data.main.temp}°C</td>
            <td>${data.weather[0].description}</td>
        </tr>
    `;
}
```



Learning Outcomes:-

We get to know that how to use the weather api and also get to learn the use of the fetch api system in the js

This help in building the proper weather api app and help in knowing the weather conditions