Weather-app Project

➢ *Introduction to the Weather Template Project:*

A weather template is a pre-designed, customizable layout used to display weather information for a specific location. It typically includes fields for entering a city name or geographic location, and sections to show various weather details fetched from a weather API. The key components of a weather template are:

1. **Input Field**: Allows users to enter the name of a city or location.
2. **Submit Button**: Initiates the search for weather information.
3. **Weather Display Area**: Shows the weather data retrieved from a weather API, such as temperature, humidity, wind speed, and weather conditions.
4. **Styling**: Custom CSS for visual appearance, including background images, fonts, colors, and layout adjustments.
5. **JavaScript**: Handles user input, interacts with the weather API to fetch data, and updates the display area with the retrieved information.

❖ Example Components of a Weather Template:

- **HTML**: Structure of the template, including input fields and display areas.
- **CSS**: Styling for the template, enhancing its visual appeal.
- **JavaScript**: Functionality to fetch weather data from an API and update the template with the results.

❖ Key Features:

- **User-Friendly Interface**: Easy to use input and output fields.
- **Dynamic Data Fetching**: Real-time weather data retrieval using APIs like OpenWeatherMap.
- **Responsive Design**: Ensures the template looks good on different devices and screen sizes.
- **Customizable**: Can be tailored to include additional weather details or specific styling preferences.

❖ Use Case:

Weather templates are commonly used in web applications, mobile apps, and widgets to provide users with current weather conditions, forecasts, and related meteorological information for various locations.

➢ *Project Structure:*

```
Weather-App/
├── index.html
├── style.css
├── index.js
├── sky.png
```

❖ Html File (index.html) :

```
<!DOCTYPE html>
<html lang="en">


<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>My Weather App</title>
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet"
    integrity="sha384-EVSTQN3/azprG1Anm3QDgpJLIm9Nao0Yz1ztcQTwFspd3yD65VohhpuuCOmLASjC"
crossorigin="anonymous">
  <link rel="stylesheet" href="style.css">
</head>


<body>
  <div class="header my-4">
    <h2><b>-- Weather Template --</b></h2>
  </div>
  <form class="container" id="weatherForm">
    <div class="mb-3">
      <label for="cityInput" class="form-label"><b>Enter the city:</b></label>
      <input type="text" class="form-control mb-3" id="cityInput">
      <button type="submit" class="btn myBtn">Search</button>
    </div>
    <div class="mb-3 weatherBox">
      <label for="weatherReport" class="form-label font-style" id="weatherBox">Weather report:</label>
      <textarea class="form-control box-size" id="weatherReport" rows="3">Please wait..</textarea>
    </div>
  </form>


  <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.bundle.min.js"
    integrity="sha384-MrcW6ZMFYlzcLA8Nl+NtUVF0sA7MsXsP1UyJoMp4YLEuNSfAP+JcXn/tWtIaxVXM"
crossorigin="anonymous"></script>
  <script src="https://code.jquery.com/jquery-3.7.1.js"
    integrity="sha256-eKhayi8LEQwp4NKxN+CfCh+3qOVUtJn3QNZ0TciWLP4=" crossorigin="anonymous"></script>
  <script src="index.js"></script>
</body>
</html>
```

- [CSS File (style.css) :]

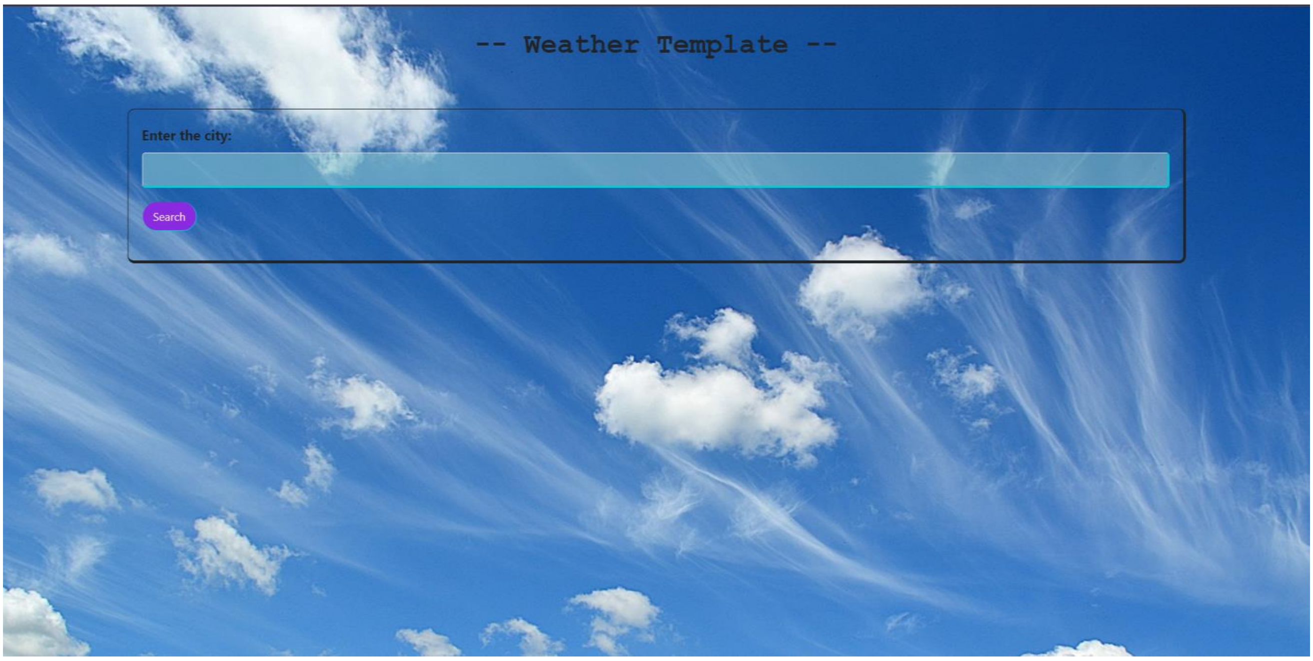
```css
body {
    background-image: url(sky.png);
    background-size: cover;
    height: 100vh;
}

.header {
    font-family: Courier, monospace;
    text-align: center;
}

.container {
    background-color: transparent;
    margin-top: 7vh;
    margin-left: auto;
    margin-right: auto;
    width: 80vw;
    padding: 1rem;
    border-radius: 8px;
    border-right: solid 3.5px;
    border-bottom: solid 3.5px;
    border-top: solid 0.5px;
    border-left: solid 0.5px;
}

.myBtn {
    font-size: 0.8em;
    color: antiquewhite;
    background-color: blueviolet;
    border: thick;
    border-radius: 30px;
    border-bottom: 1px solid darkturquoise;
    border-right: 1px solid darkturquoise;
    margin: .5px 1px;
    cursor: pointer;
}

.myBtn:hover {
    color: rgb(0, 21, 92);
    background-color: antiquewhite;
}

#cityInput, #weatherReport {
    background-color: rgb(196 255 229 / 39%);
    border-right-width: 3px;
    border-right-color: darkturquoise;
    border-bottom-width: 3px;
    border-bottom-color: darkturquoise;
}

.font-style {
    font-family: Georgia, serif;
}

.box-size {
    padding-bottom: 11rem;
}
```

- JavaScript File (index.js) :

```
$(document).ready(function() {
    $('.weatherBox').hide();



    $('#weatherForm').on('submit', function(event) {
        event.preventDefault();


        $('.weatherBox').slideDown(1000);
    const city = $('#cityInput').val();
    const apiUrl =
`https://api.openweathermap.org/data/2.5/weather?q=${city}&appid=57f047b9f6a1af65e88df22b7a1d6b8e
`;


    fetch(apiUrl)
      .then(response => {
        if (!response.ok) {
          throw new Error('City not found');
        }
        return response.json();
      })
      .then(data => {
        const tempCelsius = (data.main.temp - 273.15).toFixed(2);          //Kelvin to Celcius
        const feelsLikeCelsius = (data.main.feels_like - 273.15).toFixed(2); //Kelvin to Celcius
        const tempMinCelsius = (data.main.temp_min - 273.15).toFixed(2);    //Kelvin to Celcius
        const tempMaxCelsius = (data.main.temp_max - 273.15).toFixed(2);    //Kelvin to Celcius

        const weatherDescription = `City: ${data.name}, ${data.sys.country}\n` +
                     `Temperature: ${tempCelsius}°C\n` +
                     `Feels Like: ${feelsLikeCelsius}°C\n` +
                     `Min Temperature: ${tempMinCelsius}°C\n` +
                     `Max Temperature: ${tempMaxCelsius}°C\n` +
                     `Weather: ${data.weather[0].description}\n` +
                     `Humidity: ${data.main.humidity}%\n` +
                     `Wind Speed: ${data.wind.speed} m/s\n` +
                     `Cloudiness: ${data.clouds.all}%\n` +
                     `Pressure: ${data.main.pressure} hPa`;
        $('#weatherReport').val(weatherDescription);
      })
      .catch(error => {
        $('#weatherReport').val(error.message);
      });
  });
});
```

UI Screenshots :

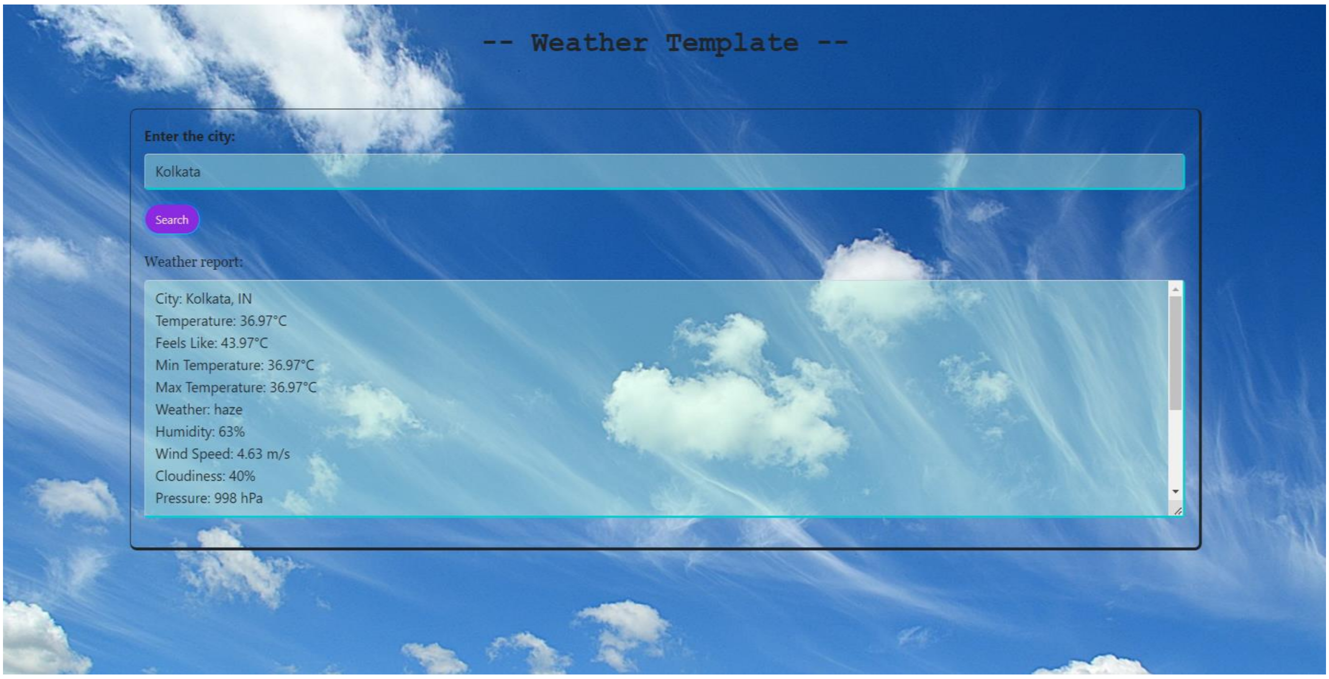
Before Searching for a City :



-- Weather Template --

Enter the city:

After Searching for a City :



-- Weather Template --

Enter the city: Kolkata

Weather report:

```
City: Kolkata, IN
Temperature: 36.97°C
Feels Like: 43.97°C
Min Temperature: 36.97°C
Max Temperature: 36.97°C
Weather: haze
Humidity: 63%
Wind Speed: 4.63 m/s
Cloudiness: 40%
Pressure: 998 hPa
```