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# Chapter-1

## Project Description

## <u>**WEATHER CAST**</u>

Welcome to Weather-Cast, where you can get up-to-date weather information for your location and beyond! The application is designed to provide you with accurate and reliable weather forecasts, no matter where you are in the world. With a user-friendly interface and easy-to-read graphics, you can quickly access current weather conditions in several places.

The above project has been created using HTML,CSS and JavaScript.

HTML has been used to create the basic Skelton for the working of the web page used to create forms and input fields, which can be used to collect user input, such as a location for the weather forecast. This information can then be passed to JavaScript or other programming languages for processing.

In addition to this, CSS has been an integra part in creating the various features for the website. It is used to control the layout of elements on the page, including positioning, size, and spacing. This can help ensure that the app is easy to navigate and use and also used to create a responsive design that adapts to different screen sizes and devices. This is important for ensuring that the app is accessible and usable on a variety of devices, including desktops, tablets, and smartphones. I have used it to create animations and transitions, which can make the app more engaging and interactive.CSS animations can be used to create a

dynamic background that changes based on the weather conditions.

In my webpage JavaScript has been an integral part in creating the validation for my sign up and login pages. The Java Script has also been used to fetch and retrieve the data from the API. Also, to organize the data fetched and present it to the user accordingly JavaScript and inner html tags. JS is also used to process weather data retrieved from APIs. For example, JS can be used to convert temperature measurements from Celsius to Fahrenheit, or to calculate the chance of precipitation based on the forecast data.

The API used to fetch the information is from www.openweathermap.com website. The API key and has have been pre-imported from the website. APIs can be used to retrieve up-to-date weather data for a specific location, including temperature, humidity, wind speed, and precipitation. This data can be used to populate the app with current weather information for the user's location or a specified location. It is also used to retrieve forecast data for a specific location, including hourly and daily forecasts for the next several days. This data can be used to provide users with a more detailed view of the weather conditions over time

The application consists if a login page which is used for authentication of the user and giving the user a more personalized experience in using the application.

If the user does not own an account, they can sign up for the webpage automatically and can enter into the site directly after sign up.

The Home page of the webpage consists of attractive backgrounds imported from a website upslash which are directly imported from the site.

Once the user enters the name of the city in the search bar, the current weather forecast of the city is directly imprinted in the background of the page.

The image is imported from up splash and is generated according to the weather present in the place.

# CHAPTER-2

## CODE

## HTML-Files

## Index.html

```html
<!DOCTYPE html>
<html>
<head>
    <title>Login Page</title>
    <style>
        @import
url('https://fonts.googleapis.com/css2?family=Nunito:wght@200;300;400;500;600&fam
ily=Poppins&display=swap');
        body {
            font-family: 'Nunito', sans-serif;
            background: linear-gradient(rgb(255, 255, 255),rgb(63, 63, 63));
            height: 100vh;
        }

        .container {
            background-color: #fff;
            border-radius: 10px;
            width: 28rem;
            box-shadow: 0px 0px 10px rgba(0, 0, 0, 0.2);
            padding: 20px;
            margin: auto;
        }

        h2 {
            text-align: center;
            font-size: 28px;
            text-shadow: 2px 2px 4px rgba(0,0,0,.5);
            color: #333;
        }

        input[type=text], input[type=password] {
            width: 100%;
            padding: 12px 20px;
            margin: 8px 0;
            display: inline-block;
            border: none;
```

```css
    border-radius: 4px;
    box-sizing: border-box;
    outline: none;
    background: #dad9d9;
}

button {
    width: 100%;
    display: block;
    background-color: rgb(63, 63, 63);
    color: whitesmoke;
    padding: 10px 20px;
    margin: 8px 0;
    border: none;
    font-size: large;
    font-weight: bold;
    border-radius: 4px;
    cursor: pointer;
    text-decoration: none;
}

button:hover {
    background-color: rgb(78, 78, 78);
    color: white;
}

input:hover{
    background-color: #eae9e9;
}

input ::placeholder{
    background-color: black;
}

.imgcontainer {
    text-align: center;
    margin: 24px 0 12px 0;
    position: relative;
    text-shadow: 2px 2px 4px rgba(0,0,0,.5);
}

img.avatar {
    width: 40%;
    border-radius: 50%;
}
```

```
        .container form {
            border: none;
        }

        .container h5 {
            font-weight: bold;
            display: block;
            margin-bottom: 10px;
            text-shadow: 2px 2px 4px rgba(0,0,0,.3);
        }

        span.psw {
            float: right;
            padding-top: 16px;
        }

        @media screen and (max-width: 600px) {
            .container {
                max-width: 100%;
            }
        }

        p{
            text-align: center;
            font-size: 18px;
        }
    </style>
    <script src="mainscript.js"></script>
</head>
<body>
    <div class="container">
        <h2>Login Here</h2>
        <form name="form" id="form">
            <div class="imgcontainer">
                <img src="https://www.iconbolt.com/preview/twitter/font-awesome-
solid/user-alt.svg" alt="Avatar" class="avatar">
            </div>

            <div>
                <h5><b>Username *</b></h5>
                <input type="text" placeholder="Enter Username" id="username"
required>
            </div>
```

```
        <div>
            <h5><b>Password *</b></h5>
            <input type="password" placeholder="Enter Password" id="password"
required>
        </div>

        <div>
            <button onclick="login()">Login</button>
        </div>
        <h4>
            <input type="checkbox" checked="checked" name="remember">
Remember me
        </h4>

        <p> Not a Member?
            <a href="signup.html"> Sign up</a>
        </p>
    </form>
  </div>
</body>
</html>
```

# Signup.Html

```
<!DOCTYPE html>
<html>
<head>
    <title>Sign Up Page</title>
    <style>
        @import
url('https://fonts.googleapis.com/css2?family=Nunito:wght@200;300;400;500;600&fam
ily=Poppins&display=swap');
        body {
            background: linear-gradient(rgb(255, 255, 255),rgb(63, 63, 63));
            font-family: 'Nunito', sans-serif;
            height: 100vh;
        }

        .container {
            margin: auto;
            width: 28rem;
            padding: 20px;
            background-color: #fff;
            border-radius: 5px;
```

```css
        box-shadow: 0 0 10px rgba(0, 0, 0, 0.2);
    }

    h1 {
        text-align: center;
        font-size: 28px;
        text-shadow: 2px 2px 4px rgba(0,0,0,.5);
        color: #333;
    }

    form {
        display: flex;
        flex-direction: column;
    }

    input[type="text"], input[type="email"], input[type="password"] {
        width: 100%;
        padding: 10px;
        margin: 8px 0;
        display: inline-block;
        margin-bottom: 10px;
        border-radius: 4px;
        box-sizing: border-box;
        border: none;
        outline: none;
        background: #dad9d9;
    }

    button{
        background-color: rgb(63, 63, 63);
        color: whitesmoke;
        padding: 14px 20px;
        margin: 8px 0;
        border: none;
        width: 100%;
        font-size: large;
        font-weight: bold;
        border-radius: 4px;
        cursor: pointer;
        font-size: 15px;
    }

    input:hover {
        background-color: #eae9e9;
        color: rgb(60, 60, 60);
```

```
        }

        button:hover {
            background-color: rgb(78, 78, 78);
        }

        .container form{
            border:none;
        }

        .container label{
            font-weight: bold;
            display: block;
            margin-bottom: 10px;
            text-shadow: 2px 2px 4px rgba(0,0,0,.3);
        }

        p {
            text-align: center;
        }

        @media screen and (max-width: 600px) {
            .container {
                max-width: 100%;
            }
        }

    </style>
    <script src="mainscript.js"></script>
</head>
<body>
    <div class="container">
        <h1>Sign Up</h1>
        <form name="form" id="form">
            <label for="username">Username:</label>
            <input type="text" placeholder="Enter Username"  id="username"
name="username" required>

            <label for="email">Email:</label>
            <input type="email" placeholder="Enter email" id="email" name="email"
required>

            <label for="password">Password:</label>
            <input type="password" placeholder="Enter Password" id="password"
name="password" required>
```

```
            <button onclick="signup()">Sign Up</button>
        </form>
        <p>Already have an account?
            <a href="login.html">Log in</a></p>
    </div>
</body>
</html>
```

## Mainpage.html

```
<!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>WeatherCast</title>
    <link rel="shortcut icon" href="assets/app_logo.png" type="image/x-icon">
    <link rel="preconnect" href="https://fonts.googleapis.com" />
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin />
    <link
href="https://fonts.googleapis.com/css2?family=Lato:wght@400;700;900&display=swap
" rel="stylesheet" />
    <link rel="preconnect" href="https://fonts.googleapis.com" />
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin />
    <link
href="https://fonts.googleapis.com/css2?family=Montserrat:wght@500&display=swap"
rel="stylesheet" />
    <link rel="preconnect" href="https://fonts.googleapis.com" />
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin />
    <link href="https://fonts.googleapis.com/css2?family=Roboto&display=swap"
rel="stylesheet" />
    <link rel="stylesheet" href="style.css" />
    <script src="script.js" defer></script>

</head>
<body>
  <div class="container">
    <div class="container-header">
      <div class="header">WeatherCast</div>
      <div class="subheader">
          <i>Easiest way to know everything about the climate of a place</i>
```

```html
            </div>
        </div>
        <div class="container-model">
            <div class="card">
                <div class="search">
                    <input type="text" class="search-bar" placeholder="City Name" />
                    <button>
                <svg
                  fill="#000000"
                  xmlns="http://www.w3.org/2000/svg"
                  viewBox="0 0 24 24"
                  width="24px"
                  height="1.2em"
                >
                  <path
                    d="M 9 2 C 5.1458514 2 2 5.1458514 2 9 C 2 12.854149 5.1458514 16
9 16 C 10.747998 16 12.345009 15.348024 13.574219 14.28125 L 14 14.707031 L 14 16
L 20 22 L 22 20 L 16 14 L 14.707031 14 L 14.28125 13.574219 C 15.348024 12.345009
16 10.747998 16 9 C 16 5.1458514 12.854149 2 9 2 z M 9 4 C 11.773268 4 14
6.2267316 14 9 C 14 11.773268 11.773268 14 9 14 C 6.2267316 14 4 11.773268 4 9 C
4 6.2267316 6.2267316 4 9 4 z"
                  />
                </svg>
            </button>
            </div>
            <div class="weather loading">
                <h3 class="city"></h3>
                <h1 class="temp">Temperature :</h1>
                <div class="flex">
                    <img src="" alt="" class="icon" />
                    <div class="description">Description :</div>
                </div>
                <div class="humidity">Humidity :</div>
                <div class="wind">Wind Speed:</div>
            </div>
        </div>
    </div>
</div>
<header style="color:azure">
  Made with ♡ By Srinithi
</header>
</body>
</html>
```

# CSS-files

```css
* {
    margin: 0%;
    padding: 0%;
    color: white;
}

body {
    font-size: 120%;
    font-family: 'Lato', sans-serif;
    background-image: url('http://source.unsplash.com/1600x900/?landscape');
    transition: 0.3ms;
}

.container {
    background-color: rgba(0, 0, 0, 0.6);
    position: fixed;
    width: 100%;
    height: 100%;
    padding-top: 10%;
}

.container-model {
    display: flex;
    justify-content: center;
}

.header {
    color: rgb(255, 255, 255);
    font-size: 300%;
    display: block;
    font-family: 'Montserrat', sans-serif;
    text-align: center;
    margin-bottom: 0.5%;
}

.subheader {
    color: white;
    font-size: 100%;
    text-align: center;
    margin-bottom: 1%;
}
```

```css
.flex {
    display: flex;
    align-items: center;
}

.card {
    background-color: #000000d0;
    color: white;
    padding: 2em;
    border-radius: 30px;
    width: 100%;
    max-width: 420px;
}

.description {
    text-transform: capitalize;
    margin-left: 8px;
}

.search {
    display: flex;
    align-items: center;
    justify-content: center;
    padding-bottom: 20px;
}

button {
    margin: 0.5em;
    border-radius: 50%;
    border: none;
    height: 44px;
    width: 44px;
    outline: none;
    background: #7c7c7c2b;
    color: white;
    cursor: pointer;
    transition: 0.2s ease-in-out;
}

input.search-bar {
    border: none;
    outline: none;
    padding: 0.4em 1em;
    border-radius: 24px;
```

```css
    background: #7c7c7c2b;
    color: white;
    font-family: inherit;
    font-size: 120%;
    width: calc(100% - 100px);
}

button:hover {
    background: #d4d1d16b
}

.city {
    text-align: center;
}

.h1.temp {
    margin: 0;
    margin-bottom: 0.4em;
}

.weather.loading {
    visibility: hidden;
    max-height: 20px;
    position: relative;
}

.weather.loading:after {
    visibility: visible;
    content: "Enter a city to know about its geolocation info!";
    font-family: 'Roboto', sans-serif;
    color: white;
    position: absolute;
    top: 0;
    left: 20px;
}

@media(max-width:912px) {
    body {
        display: flex;
        justify-content: center;
        align-items: center;
        height: 100vh;
        margin: 0;
        background: #223;
        font-family: 'Lato', sans-serif;
```

```css
        background-image: url(http://source.unsplash.com/1600x900/?landscape);
        font-size: 120%;
    }
    .container {
        background-color: rgba(0, 0, 0, 0.6);
        position: fixed;
        width: 100%;
        height: 100%;
        padding-top: 20%;
    }
    .header {
        color: white;
        font-size: 300%;
        display: block;
        text-align: center;
        font-family: 'Montserrat', sans-serif;
    }
    .subheader {
        text-align: center;
        color: white;
        font-size: 100%;
        padding-left: 12px;
    }
    .card {
        background-color: #000000d0;
        color: white;
        padding: 2.6em;
        border-radius: 30px;
        width: 100%;
        max-width: 420px;
        margin: 2em;
    }
    .search {
        display: flex;
        align-items: center;
        justify-content: center;
        padding-bottom: 15px;
    }
    .weather.loading {
        visibility: hidden;
        max-height: 20px;
        position: relative;
    }
}
```

```css
@media(max-width:540px) {
    body {
        display: flex;
        justify-content: center;
        align-items: center;
        height: 110vh;
        margin: 0;
        background: #223;
        font-family: 'Lato', sans-serif;
        background-image: url(http://source.unsplash.com/1600x900/?landscape);
        font-size: 130%;
    }
    .container {
        background-color: rgba(0, 0, 0, 0.6);
        position: fixed;
        width: 100%;
        height: 100%;
        padding-top: 30%;
    }
    .header {
        color: white;
        font-size: 280%;
        display: block;
        text-align: center;
        font-family: 'Montserrat', sans-serif;
    }
    .subheader {
        text-align: center;
        color: white;
        font-size: 94%;
        padding-left: 6px;
    }
    .card {
        background-color: #000000d0;
        color: white;
        padding: 1em;
        border-radius: 30px;
        width: 115%;
        max-width: 420px;
        margin: 2em;
    }
    .weather.loading {
        visibility: hidden;
        max-height: 50px;
        position: relative;
```

```css
        text-align: center;
    }
}

@media only screen and (min-width:395px) and (max-width:415px) {
    body {
        display: flex;
        justify-content: center;
        align-items: center;
        height: 105vh;
        margin: 0;
        background: #223;
        font-family: 'Lato', sans-serif;
        background-image: url(http://source.unsplash.com/1600x900/?landscape);
        font-size: 90%;
    }
    .container {
        background-color: rgba(0, 0, 0, 0.6);
        position: fixed;
        width: 100%;
        height: 100%;
        padding-top: 60%;
    }
    .header {
        color: white;
        font-size: 280%;
        display: block;
        text-align: center;
        padding-left: 1%;
        font-family: 'Montserrat', sans-serif;
    }
    .subheader {
        text-align: center;
        color: white;
        font-size: 111%;
        padding-left: 5px;
    }
    .card {
        background-color: #000000d0;
        color: white;
        padding: 1em;
        border-radius: 30px;
        width: 80%;
        max-width: 420px;
        margin: 2em;
```

```css
        }
    .search {
        display: flex;
        align-items: center;
        justify-content: center;
        padding-top: 12px;
    }
    input.search-bar {
        border: none;
        outline: none;
        padding: 0.4em 1em;
        border-radius: 20px;
        background: #7c7c7c2b;
        color: white;
        font-family: inherit;
        font-size: 120%;
        width: calc(100% - 100px);
    }
    button {
        margin: 0.5em;
        border-radius: 50%;
        border: none;
        height: 36px;
        width: 36px;
        outline: none;
        background: #7c7c7c2b;
        color: white;
        cursor: pointer;
        transition: 0.2s ease-in-out;
    }
    .weather.loading {
        visibility: hidden;
        max-height: 38px;
        position: relative;
        text-align: center;
    }
}

@media only screen and (min-width:281px) and (max-width:394px) {
    body {
        display: flex;
        justify-content: center;
        align-items: center;
        height: 100vh;
        margin: 0;
```

```css
        background: #223;
        font-family: 'Lato', sans-serif;
        background-image: url(http://source.unsplash.com/1600x900/?landscape);
        font-size: 70%;
    }
    .container {
        background-color: rgba(0, 0, 0, 0.6);
        position: fixed;
        width: 100%;
        height: 100%;
        padding-top: 100%;
    }
    .header {
        color: white;
        font-size: 270%;
        display: block;
        text-align: center;
        font-family: 'Montserrat', sans-serif;
        padding-left: 2%;
    }
    .subheader {
        text-align: center;
        color: white;
        font-size: 125%;
        padding-left: 50px;
        margin-right: 43px;
    }
    .card {
        background-color: #000000d0;
        color: white;
        padding: 1.4em;
        border-radius: 30px;
        width: 70%;
        max-width: 400px;
        margin: 3.4em;
        padding-bottom: 10px;
        padding-left: 12px;
        padding-top: 10px;
    }
    .search {
        display: flex;
        align-items: center;
        justify-content: center;
        padding-top: 10px;
    }
```

```css
    input.search-bar {
        border: none;
        outline: none;
        padding: 0.5em 1em;
        border-radius: 20px;
        background: #7c7c7c2b;
        color: white;
        font-family: inherit;
        font-size: 125%;
        width: calc(100% - 100px);
    }
    button {
        margin: 0.5em;
        border-radius: 50%;
        border: none;
        height: 33px;
        width: 33px;
        outline: none;
        background: #7c7c7c2b;
        color: white;
        cursor: pointer;
        transition: 0.2s ease-in-out;
    }
}

@media(max-width:280px) {
    body {
        display: flex;
        justify-content: center;
        align-items: center;
        height: 106vh;
        margin: 0;
        background: #223;
        font-family: 'Lato', sans-serif;
        background-image: url(http://source.unsplash.com/1600x900/?landscape);
        font-size: 70%;
    }
    .container {
        background-color: rgba(0, 0, 0, 0.6);
        position: fixed;
        width: 100%;
        height: 100%;
        padding-top: 93%;
    }
    .header {
```

```css
    color: white;
    font-size: 265%;
    display: block;
    text-align: center;
    font-family: 'Montserrat', sans-serif;
    padding-left: 2%;
}
.subheader {
    text-align: center;
    color: white;
    font-size: 105%;
    padding-left: 5px;
    margin: 11px;
}
.card {
    background-color: #000000d0;
    color: white;
    padding: 1em;
    border-radius: 30px;
    width: 64%;
    max-width: 420px;
    margin: 3em;
    padding-bottom: 22px;
    padding-left: 22px;
    padding-top: 17px;
    padding-right: 18px;
}
.search {
    display: flex;
    align-items: center;
    justify-content: center;
    padding-top: 8px;
}
input.search-bar {
    border: none;
    outline: none;
    padding: 0.7em 2em;
    border-radius: 20px;
    background: #7c7c7c2b;
    color: white;
    font-family: inherit;
    font-size: 118%;
    width: calc(100% - 100px);
}
button {
```

```css
        margin: 0.5em;
        border-radius: 50%;
        border: none;
        height: 32px;
        width: 32px;
        outline: none;
        background: #7c7c7c2b;
        color: white;
        cursor: pointer;
        transition: 0.2s ease-in-out;
    }
}
footer{
    align-content: baseline;

}
```

# Java Script-Files

## Script.js

```javascript
let weather = {
    "apiKey": "5277366efc22ee53ec239b2d6153696b",
    fetchWeather: function(city) {
        fetch("https://api.openweathermap.org/data/2.5/weather?q=" +
                city +
                "&units=metric&appid=" +
                this.apiKey
            ).then((response) => response.json())
            .then((data) => this.displayWeather(data));
    },
    displayWeather: function(data) {
        const { name } = data;
        const { icon, description } = data.weather[0];
        const { temp, humidity } = data.main;
        const { speed } = data.wind;


        //console.log(name, icon, description, temp, humidity, speed);
        document.querySelector(".city").innerText = "Weather in " + name;
        document.querySelector(".icon").src ="http://openweathermap.org/img/wn/"
+ icon + ".png";
        document.querySelector(".description").innerText = description;
        document.querySelector(".temp").innerText = temp + "°C" ;
        document.querySelector(".humidity").innerText = "Humidity: " + humidity +
"%";
        document.querySelector(".wind").innerText = "Wind Speed: " + speed +
"km/hr";

        document.querySelector(".weather").classList.remove("loading");
        document.body.style.backgroundImage =
"url('http://source.unsplash.com/1600x900/?"  +description + " ')"
    },
    search: function() {
        this.fetchWeather(document.querySelector(".search-bar").value)
    }
};
document.querySelector(".search button")
    .addEventListener("click", function()
    {
        weather.search();
    });
```

```javascript
document.querySelector(".search-bar")
    .addEventListener("keyup", function(event) {
        if (event.key == "Enter")
            weather.search();
    });
```

# mainscript.js

```javascript
function login(){
    if(document.getElementById("username").value.length==0){
        window.alert("Username is empty");
    }
    else{
        if(document.getElementById("password").value.length==0){
            window.alert("Password is empty");
        }
        else if(document.getElementById("password").value.length<6){
            window.alert("Password should have minimum 6 characters");
        }
        else{
            if (document.getElementById("username").value==" rinithi" &&
document.getElementById("password").value=="12345"){
                window.alert("Login Successful");
                document.form.action='index.html';
            }
            else{
                window.alert("Invalid Username or Password");
            }
        }
    }
}
function signup(){
    if(document.getElementById("username").value.length==0){
        window.alert("Username is empty");
    }
    else{
        if(document.getElementById("email").value.length==0){
            window.alert("Email is empty");
        }
        else{
            if(document.getElementById("password").value.length==0){
                window.alert("Password is empty");
            }
        }
```
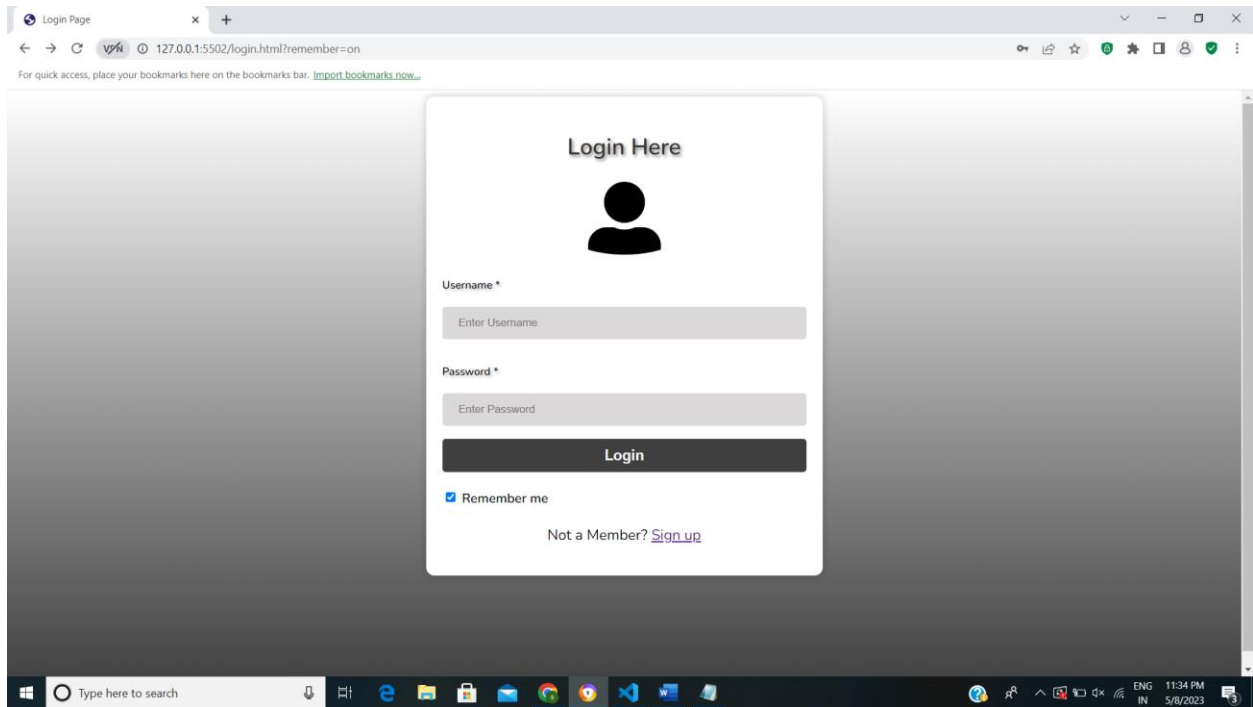
```
        else if(document.getElementById("password").value.length<6){
            window.alert("Password should have minimum 6 characters");
        }
        else{
            window.alert("Signup Successful");
            document.form.action='index.html';
        }
    }
  }
}
```
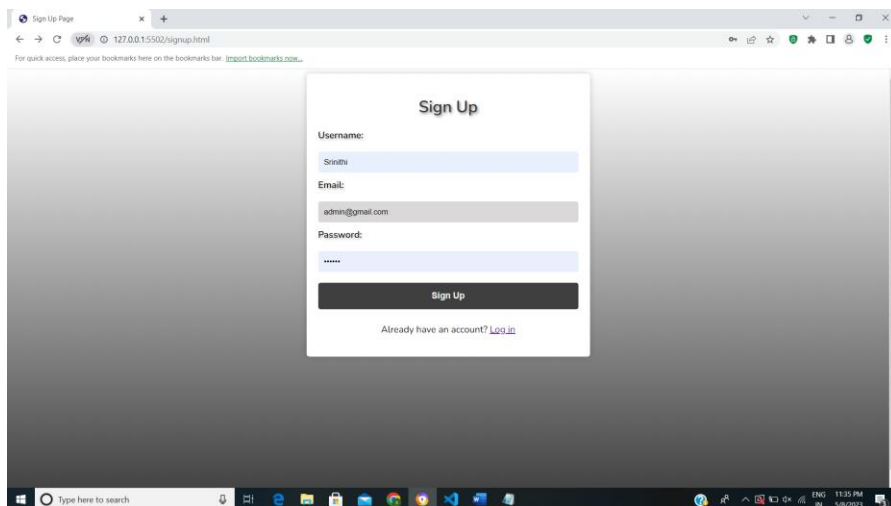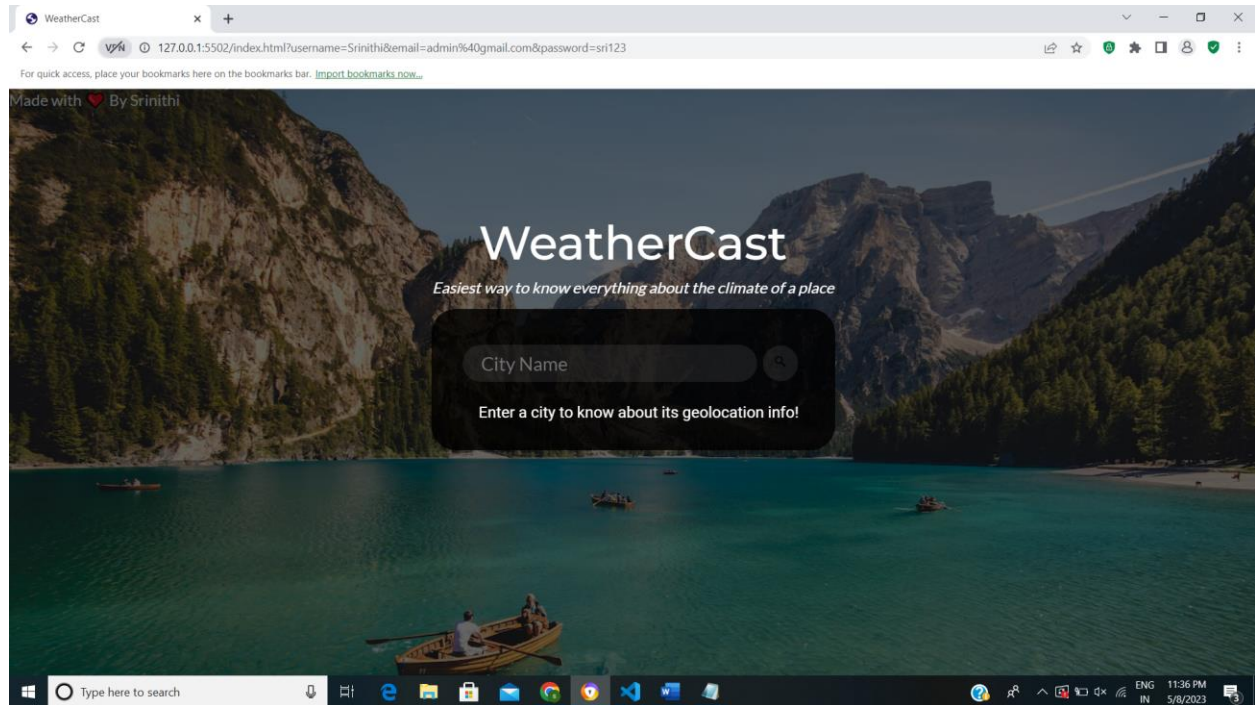
# CHAPTER-3

## OUTPUT PAGES

### LOGIN PAGE



### SIGN UP-PAGE

# MAIN-page



# Weather forecast in different cities