

Date	19 / 11 / 2022
Team ID	PNT2022TMID06211
Project Name	Efficient Water Quality Analysis and Prediction Using Machine Learning
Maximum Marks	8 Marks

SPRINT-4

MAIN CODE

Home.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">
  <link rel="stylesheet" href="style.css">
  <title>Product Landing Page</title>
</head>
<body>
  <nav>
    <div class="logo">Brand</div>
    <!-- toggle menu button -->
    <span class="menubtn" onclick="openNav()">&#9776;</span>

    <div class="navLinks">
      <ul>
        <li><a href="#">Home</a></li>

```

```

        <li><a href="#">Services</a></li>
        <li><a href="#">Contact</a></li>
        <button type="button">Login</button>
    </ul>
</div>
</nav>

<!-- responsive side navbar -->
<div class="sideNav" id="sidenav">
    <a href="#" class="closeBtn" onclick="closeNav()"> &#10006;</a>
    <a href="#">Home</a>
    <a href="#">Services</a>
    <a href="#">Contact</a>
    <a href="#"><button type="button">Login</button> </a>
</div>

<!-- javascript to make side menu appear -->
<script>  function openNav() {    document.getElementById("sidenav").style.width
= "50%";    }

    function closeNav() {
document.getElementById("sidenav").style.width = "0%";
    }
</script>
</body>
</html>

```

Login.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">
<link rel="stylesheet" href="style.css">
<title>Product Landing Page</title>
</head>
<body>
<nav>
  <div class="logo">Brand</div>
  <!-- toggle menu button -->
  <span class="menubtn" onclick="openNav()">&#9776;</span>

  <div class="navLinks">
    <ul>
      <li><a href="#">Home</a></li>
      <li><a href="#">About</a></li>
      <li><a href="#">Services</a></li>
      <li><a href="#">Contact</a></li>
      <button type="button">Login</button>
    </ul>
  </div>
</nav>

  <!-- responsive side navbar -->
  <div class="sideNav" id="sidenav">
    <a href="#" class="closeBtn" onclick="closeNav()"> &#10006;</a>
    <a href="#">Home</a>
    <a href="#">About</a>
    <a href="#">Services</a>
    <a href="#">Contact</a>
    <a href="#"><button type="button">Login</button> </a>
  </div>
```

```

<!-- Header content with banner image -->
<div class="row">
  <div class="column1">
    <h1>Responsive Design</h1>
    <p>Contact us for responsive web design to grow your business!</p>
    <button>PURCHASE</button>
  </div>
  <div class="column2">
    
  </div>
</div>

<!-- javascript to make side menu appear -->
<script>  function openNav() {
document.getElementById("sidenav").style.width = "50%";
}

  function closeNav() {
document.getElementById("sidenav").style.width = "0%";
}
</script>
</body>
</html>

```

Register.html

```

<!DOCTYPE html>
<html lang="zxx">

<head>

```

```

<title>Water Quality Prediction</title>

<!-- Meta tag Keywords -->

<meta name="viewport" content="width=device-width, initial-scale=1">

<meta charset="UTF-8" />    <meta
name="keywords"
content="Login Form" />

<link
href="//fonts.googleapis.com/css2?family=Poppins:wght@300;400;500;600&display=swap"
rel="stylesheet">

<script src="https://kit.fontawesome.com/af562a2a63.js"
crossorigin="anonymous"></script>

<link type="text/css" rel="stylesheet" href="{{ url_for('static', filename='css/style1.css')
}}" />
</head>

<body>

<!-- form section start -->

<section class="w3l-mockup-form">
    <div class="container">
        <!-- /form -->
        <div class="workinghny-form-grid">
            <div class="main-mockup">
                <div class="alert-close">
                    <span class="fa fa-close"></span>
                </div>
                <div class="w3l_form align-self">
                    <div class="left_grid_info">
                        
                    </div>
                </div>
                <div class="content-wthree">

```

<h2>Register Now</h2>

<p></p>

<form action="/add_user" method="post">

<input type="text" class="name" name="name" required
placeholder="Name">

<input type="email" class="email" name="email" required
placeholder="Email">

<input type="password" class="password" name="password" required
placeholder="Password">

<button name="submit" class="btn" type="submit">Register</button>

</form>

<div class="social-icons">

<p>Have an account! Login.</p>

</div>

</div>

</div>

</div>

<!-- //form -->

</div>

</section>

<!-- //form section start -->

<script>

\$(document).ready(function (c) {

\$('.alert-close').on('click', function (c) {

\$('.main-mockup').fadeOut('slow', function (c) {

\$('.main-mockup').remove();

});

});

});

```
</script>
</body>
</html>
```

Index.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">
  <!-- The above 3 meta tags *must* come first in the head; any other head content must
  come *after* these tags -->
```

```
<title>Water Quality Prediction</title>
```

```
<link href="https://fonts.googleapis.com/css?family=Lato:400,700" rel="stylesheet">
<link type="text/css" rel="stylesheet" href="{{ url_for('static',
filename='css/bootstrap.min.css') }}" />
```

```
<link type="text/css" rel="stylesheet" href="{{ url_for('static', filename='css/style.css') }}"
/>
```

```
<style>
#booking
{
    font-family: 'Lato', sans-serif;
background: url(../static/background.jpg);
background-size: cover;    backgroundposition:
center;    color: #2c3b40;
}
```

```

</style>

<!---->

<!-- HTML5 shim and Respond.js for IE8 support of HTML5 elements and media queries -
>

<!-- WARNING: Respond.js doesn't work if you view the page via file:// --> <!--[if
lt IE 9]>

        <script
src="https://oss.maxcdn.com/html5shiv/3.7.3/html5shiv.min.js"></script>

        <script src="https://oss.maxcdn.com/respond/1.4.2/respond.min.js"></script>

        <script src="https://unpkg.com/aos@2.3.1/dist/aos.js"></script>

<!-- ===== GSAP CDN ===== -->

<script src="https://cdnjs.cloudflare.com/ajax/libs/gsap/3.8.0/gsap.min.js"></script>

<!-- ===== SCRIPT.JS ===== -->

<script src="{ {url_for('static', filename='script.js' ) }}" defer></script>

</head>

<body style="background-color:#00ccff">

<div id="booking" class="section">

    <div class="section-center">

        <div class="container">

            <div class="row">

                <div class="col-md-4">

                    <div class="booking-cta">

                        <h1>Water Quality Prediction</h1>

                        <p>Let's Find the potability of the water</p>

                    </div>

                </div>

            </div>

        </div>

    </div>

</div>

```



```

<div class="col-md-7 col-md-offset-1">

  <div class="booking-form">

    <form action={{ url_for("predict") }} method="post">


      <div class="row">


        <div class="col-md-4">

          <div class="form-group">

            <span class="form-label">ph:</span>

            <input type="text" class="form-control" name="ph"
placeholder="Enter value" required="true">

            <span class="select-arrow"></span>

          </div>

        </div>

        <div class="col-md-4">

          <div class="form-group">

            <span class="form-label">Hardness: </span>

            <input type="text" class="form-control" name="Hardness"
placeholder="Enter value" required="true">

            <span class="select-arrow"></span>

          </div>

        </div>

        <div class="col-md-4">

          <div class="form-group">

            <span class="form-label">Solids:</span>

            <input type="text" class="form-control" name="Solids"
placeholder="Enter value" required="true">

            <span class="select-arrow"></span>

```

```

        </div>
    </div>
    <! Date>
</div>
<div class="row">

    <div class="col-md-4">
        <div class="form-group">
            <span class="form-label">Chloramines:</span>
            <input type="text" class="form-control" name="Chloramines"
placeholder="Enter value" required="true">
            <span class="select-arrow"></span>
        </div>
    </div>
    <! Year>
    <div class="col-md-4">
        <div class="form-group">
            <span class="form-label">Sulfate:</span>
            <input type="text" class="form-control" name="Sulfate"
placeholder="Enter value" required="true">
            <span class="select-arrow"></span>
        </div>
    </div>
    <! Month>
    <div class="col-md-4">
        <div class="form-group">
            <span class="form-label">Conductivity:</span>
            <input type="text" class="form-control" name="Conductivity"
placeholder="Enter value" required="true">
            <span class="select-arrow"></span>
        </div>
    </div>

```

```

        <! Date>

    </div>

    <div class="row">

        <div class="col-md-4">

            <div class="form-group">

                <span class="form-label">Organic_carbon:</span>

                <input type="text" class="form-control"
name="Organic_carbon" placeholder="Enter value" required="true">

                <span class="select-arrow"></span>

            </div>

        </div>

        <div class="col-md-4">

            <div class="form-group">

                <span class="form-label">Trihalomethanes:</span>

                <input type="text" class="form-control"
name="Trihalomethanes" placeholder="Enter value" required="true">

                <span class="select-arrow"></span>

            </div>

        </div>

        <!Month>

        <div class="col-md-4">

            <div class="form-group">

                <span class="form-label">Turbidity:</span>

                <input type="text" class="form-control" name="Turbidity"
placeholder="Enter value" required="true">

                <span class="select-arrow"></span>

            </div>

        </div>

        <! Date>

    </div>

```

```
<div class="row">
```

```
<div class="col-md-4">
```

```
<div class="form-group">
```

```
<span class="form-label">nph:</span>
```

```
<input type="text" class="form-control" name="nph"  
placeholder="Enter value" required="true">
```

```
<span class="select-arrow"></span>
```

```
</div>
```

```
</div>
```

```
<!Year>
```

```
<div class="col-md-4">
```

```
<div class="form-group">
```

```
<span class="form-label">nHardness:</span>
```

```
<input type="text" class="form-control" name="nHardness"  
placeholder="Enter value" required="true">
```

```
<span class="select-arrow"></span>
```

```
</div>
```

```
</div>
```

```
<!Month>
```

```
<div class="col-md-4">
```

```
<div class="form-group">
```

```
<span class="form-label">wph:</span>
```

```
<input type="text" class="form-control" name="wph"  
placeholder="Enter value" required="true">
```

```
<span class="select-arrow"></span>
```

```
</div>
```

```
</div>
```

```
<! Date>
```

```
</div>
```

```
<div class="row">
```

```

<div class="col-md-4">
  <div class="form-group">
    <span class="form-label">wHardness:</span>
    <input type="text" class="form-control" name="wHardness"
placeholder="Enter value" required="true">
    <span class="select-arrow"></span>
  </div>
</div>
<!--Year>
<div class="col-md-4">
  <div class="form-group">
    <span class="form-label">wSolids:</span>
    <input type="text" class="form-control" name="wSolids"
placeholder="Enter value" required="true">
    <span class="select-arrow"></span>
  </div>
</div>
<!--Month>
<div class="col-md-4">
  <div class="form-group">
    <span class="form-label">wqi:</span>
    <input type="text" class="form-control" name="wqi"
placeholder="Enter value" required="true">
    <span class="select-arrow"></span>
  </div>
</div>
<!-- Date>
</div>
<!--Year,Month,Date end-->

<div class="form-btn">

```

```
<button class="submit-btn">Predict</button>
```

```
</div>
```

```
<!--Button-->
```

```
{% if prediction_text == 0 % }
```

```
<h2 >" Not Potable, the water can't be drink "</h2>
```

```
{% elif prediction_text == 1 % }
```

```
<h2 >" Potable, the water can be drink "</h2>
```

```
{% endif % }
```

```
</center>
```

```
</form>
```

```
<!--Form end-->
```

```
</div>
```

```
<!--Booking form-->
```

```
</div>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
</p>
```

```
</body>
```

```
</html>
```

App.py

```
from flask import Flask, render_template, request
```

```
import requests
```

```
# NOTE: you must manually set API_KEY below using information retrieved from your  
# IBM Cloud account. But we are facing some issues with IBM account creation, so we  
# are unable to set it.
```

```
import requests
```

```
API_KEY = ""
```

```
token_response = requests.post('https://iam.cloud.ibm.com/identity/token', data={"apikey":
```

```
API_KEY, "grant_type": 'urn:ibm:params:oauth:grant-type:apikey'}) mltoken =
```

```
token_response.json()["access_token"]
```

```
header = {'Content-Type': 'application/json', 'Authorization': 'Bearer ' + mltoken}
```

```
app = Flask(__name__)
```

```
@app.route('/') def index():
```

```
    return render_template('index.html')
```

```
@app.route('/predict', methods = ['POST']) def
```

```
predict():
```

```
    ph = request.form['ph']
```

```
    Hardness = request.form['Hardness']
```

```
    Solids = request.form['Solids']
```

```
    Chloramines = request.form['Chloramines']
```

```
    Sulfate = request.form['Sulfate']
```

```
    Conductivity = request.form['Conductivity']
```

```
    Organic_carbon = request.form['Organic_carbon']
```

```

    Trihalomethanes = request.form['Trihalomethanes']
    Turbidity = request.form['Turbidity']    npH =
    request.form['npH']    nHardness =
    request.form['nHardness']    wph = request.form['wph']
    wHardness = request.form['wHardness']    wSolids =
    request.form['wSolids']    wqi = request.form['wqi']

    t
=

[[float(ph),float(Hardness),int(Solids),float(Chloramines),float(Sulfate),float(Conductivity),fl
oat(Organic_carbon),float(Trihalomethanes),float(Turbidity),int(npH),int(nHardness),float(w
ph),float(wHardness),float(wSolids),float(wqi)]]

    payload_scoring = {"input_data": [{"fields":
[["f0","f1","f2","f3","f4","f5","f6","f7","f8","f9","f10","f11","f12","f13","f14"]], "values":t
}]}

    response_scoring = requests.post('https://us-
south.ml.cloud.ibm.com/ml/v4/deployments/94d69d4c-4e12-4662-
aba9fe193faa3d90/predictions?version=2022-11-07', json=payload_scoring,
headers={'Authorization': 'Bearer ' + mltoken})

    print("Scoring response")
    payload_scoring = {"input_data": [{"fields":
[["f0","f1","f2","f3","f4","f5","f6","f7","f8","f9","f10","f11","f12","f13","f14"]], "values":t
}]}

    pred= response_scoring.json()
    output=pred['predictions'][0]['values'][0][0]
    print(output)

    return render_template("index.html", prediction_text = output)

```



```
if __name__=='__main__':  
    app.run(debug = False)
```