Date	18 November 2022
TeamID	PNT2022TMID14930
· ·	Efficient Water Quality Analysis and Prediction Using Machine Learning
MaximumMarks	8Marks

SPRINT-4

SOURCE CODE

HOME:

```
<!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="menu.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">
  <a href="#">Home</a>
   <a href="#">About</a>
```

```
<a href="#">Services</a>
   <a href="#">Contact</a>
   <button type="button">Login</button>
  </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>
   Contact us for responsive web design to grow your business!
   <button>PURCHASE</button>
  </div>
  <div class="column2">
   <img src="https://www.hmablogs.com/wp-content/uploads/2022/06/banner-img.png"</pre>
alt="banner" width="500px">
  </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>
LOGIN:
<!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="menu.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">
   \langle ul \rangle
```

Home

```
<a href="#">About</a>
    <a href="#">Services</a>
    <a href="#">Contact</a>
    <button type="button">Login</button>
  </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 -->
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  </div>
  <div class="column2">
    <img src="https://www.hmablogs.com/wp-content/uploads/2022/06/banner-img.png"</pre>
alt="banner" width="500px">
  </div>
 </div>
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```

```
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function openNav() {
  document.getElementById("sidenav").style.width = "50%";
}
function closeNav() {
  document.getElementById("sidenav").style.width = "0%";
}
</script>
</body>
</html>
```

REGISTER:

```
<!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"</pre>
crossorigin="anonymous"></script>
   k 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">
                <img src="{{ url_for('static', filename='images/img.jpg') }}" alt="">
             </div>
           </div>
           <div class="content-wthree">
             <h2>Register Now</h2>
             <form action="/add_user" method="post">
                <input type="text" class="name" name="name" required</pre>
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">
                Have an account! <a href="/login">Login</a>.
```

```
</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:
<!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>
  k 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') }}" />
  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;
       background-position: center;
       color: #2c3b40;
  }
  </style>
  <!--<img src="{{url_for('static', filename='background.png')}}" />-->
  <!-- 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>
                Let's Find the potability of the water
              </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"</pre>
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">Hardness: </span>
                             <input type="text" class="form-control" name="Hardness"</pre>
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">Solids:</span>
                             <input type="text" class="form-control" name="Solids"</pre>
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"</pre>
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"</pre>
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"</pre>
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"</pre>
name="Organic_carbon" 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">Trihalomethanes:</span>
                            <input type="text" class="form-control"</pre>
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"</pre>
placeholder="Enter value" required="true">
                               <span class="select-arrow"></span>
                            </div>
                          </div>
                          <! Date>
```

```
<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"</pre>
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"</pre>
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"</pre>
placeholder="Enter value" required="true">
                               <span class="select-arrow"></span>
                            </div>
```

</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"</pre>
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"</pre>
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"</pre>
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>
  </body>
</html>
APP.PY:
from flask import Flask, render_template, request
import requests
import requests
# NOTE: you must manually set API_KEY below using information retrieved from your
IBM Cloud account.
import requests
# NOTE: you must manually set API_KEY below using information retrieved from your
IBM Cloud account.
API_KEY = "nFFWACn7pVNTQWlnb7pusoXVa63g0vFEq_8Y2x2pxZSE"
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']
[[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 = [["f0","f1","f2","f3","f4","f5","f6","f7","f8","f9","f10","f11","f12","f13","f14"]], "values":t = [["f0","f1","f2","f3","f4","f5","f6","f7","f8","f9","f9","f10","f11","f12","f13","f14"]], "values":t = [["f0","f1","f1],"f11","f12","f13","f14"]], "values":t = [[["f0","f1","f1],"f11","f12","f13","f14"]], "values":t = [[[["f0","f1],"f1],"f11","f12","f13","f14"]], "values":t = [[[[[[[t0],"f1],"f1],"[[t0],"f1],"f13","f14"]]], "values":t = [[[[[[t0],"f1],"f1],"[[t0],"f1],"f13","f14"]]], "values":t = [[[[[t0],"f1],"f13","f13","f14"]]], "values":t = [[[[[t0],"f1],"f13","f13","f14"]]], "values":t = [[[[[[t0],"f1],"f13","f13","f14"]]], "values":t = [[[[[t0],"f1],"f13","f13","f14"]]], "values":t = [[[[[t0],"f1],"f13","f13","f13","f13","f13","f13"]], "values":t = [[[[[t0],"f1],"f13","f13","f13","f13","f13","f13"]], "values":t = [[[[[t0],"f1],"f13","f13","f13","f13","f13","f13"]], "values":t = [[[[[t0],"f1],"f13","f13","f13","f13","f13","f13"]], "values":t = [[[[[[t0],"f1],"f13","f13","f13","f13","f13","f13"]], "values":t = [[[[[[t0],"f1],"f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13","f13"
}]}
      response_scoring = requests.post('https://us-
south.ml.cloud.ibm.com/ml/v4/deployments/94d69d4c-4e12-4662-aba9-
fe193faa3d90/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)
```