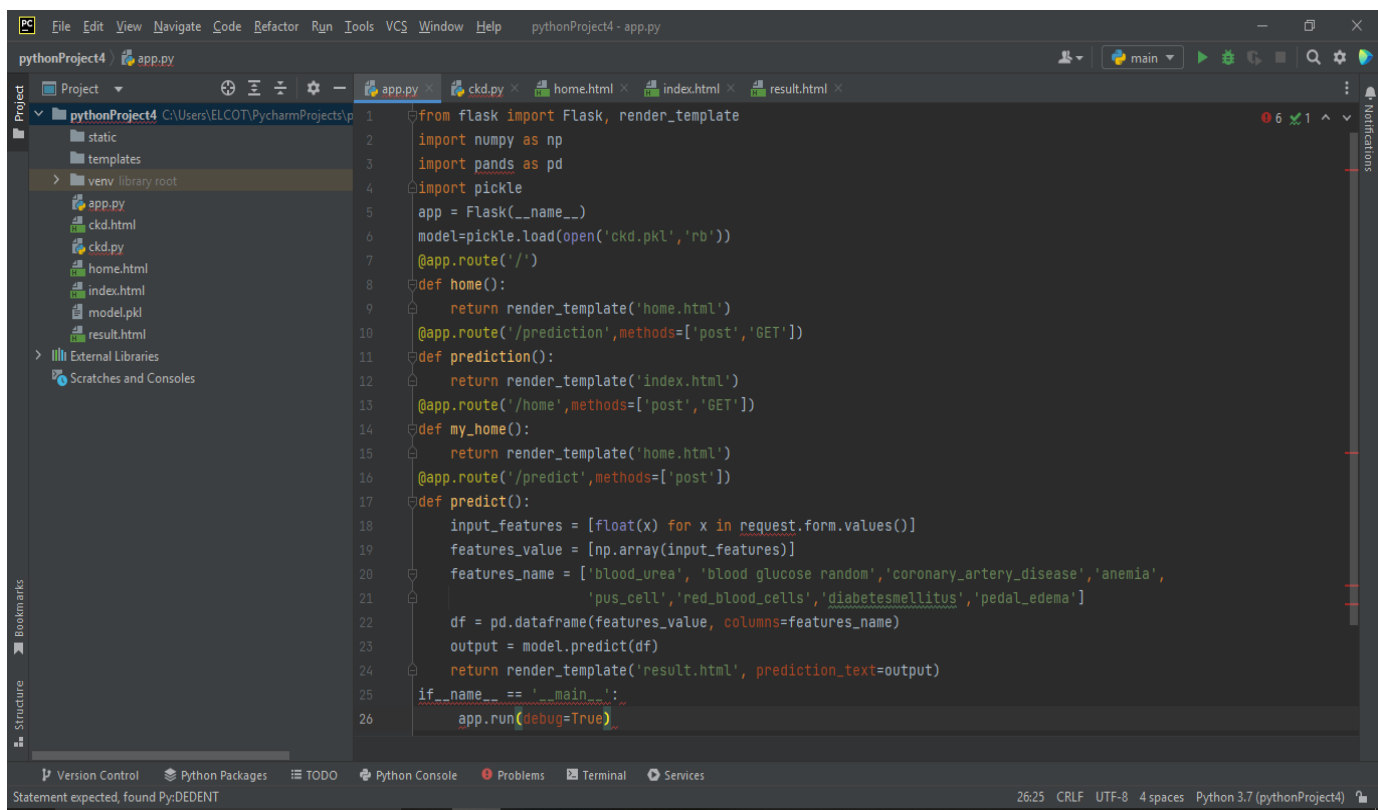


TEAM ID :PN2022TMID45417

## EARLY PREDICTION OF CHRONIC KIDNEY DISEASE

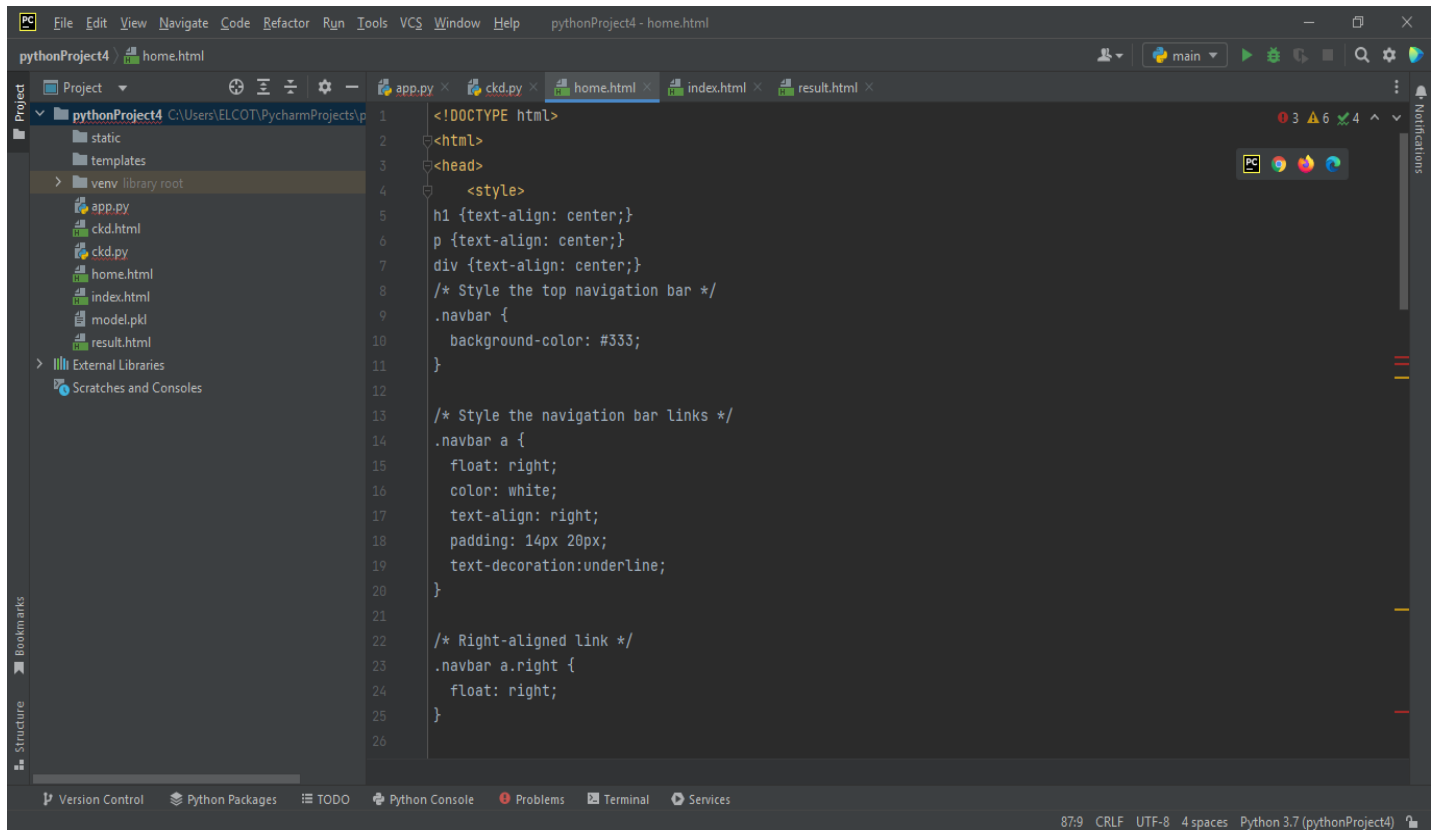
### SPRINT-3

#### APP.PY CODE

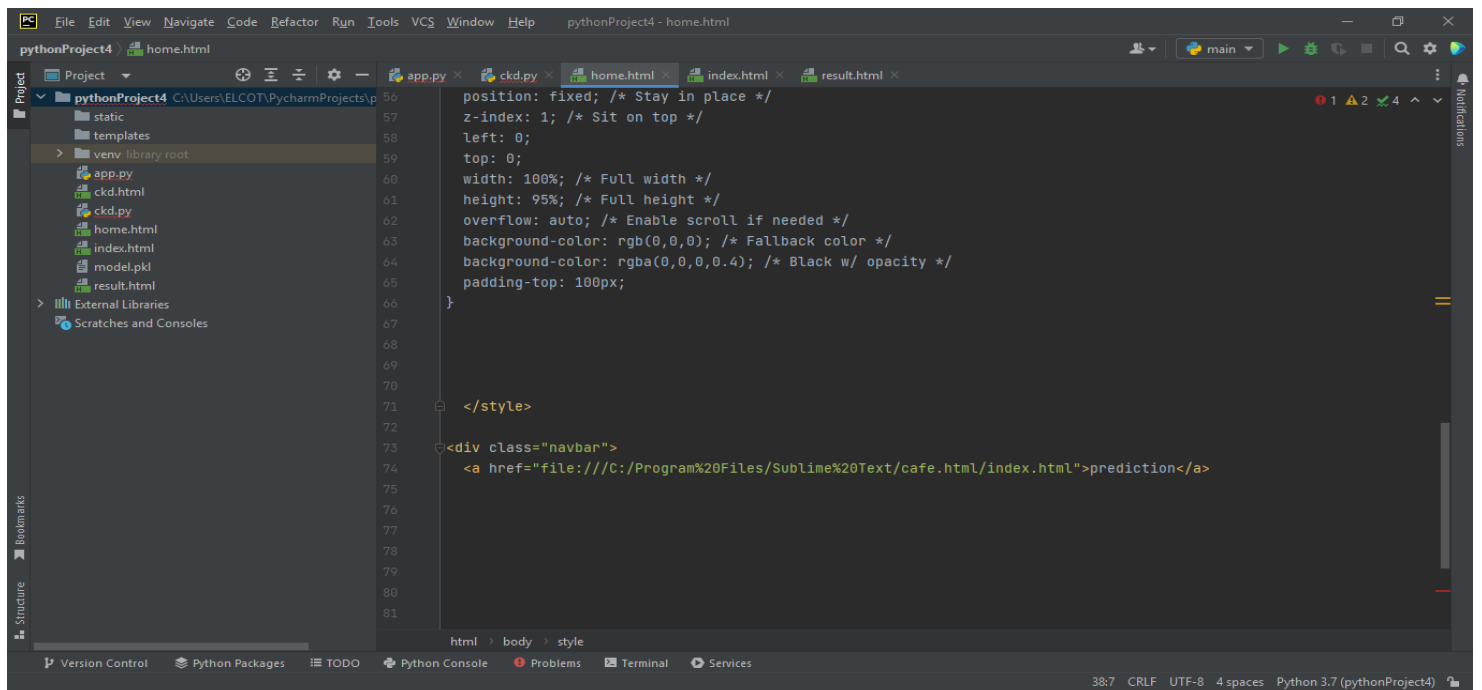


```
1 from flask import Flask, render_template
2 import numpy as np
3 import pandas as pd
4 import pickle
5 app = Flask(__name__)
6 model=pickle.load(open('ckd.pkl','rb'))
7 @app.route('/')
8 def home():
9     return render_template('home.html')
10 @app.route('/prediction',methods=['post','GET'])
11 def prediction():
12     return render_template('index.html')
13 @app.route('/home',methods=['post','GET'])
14 def my_home():
15     return render_template('home.html')
16 @app.route('/predict',methods=['post'])
17 def predict():
18     input_features = [float(x) for x in request.form.values()]
19     features_value = [np.array(input_features)]
20     features_name = ['blood_urea', 'blood glucose random','coronary_artery_disease','anemia',
21                     'pus_cell','red_blood_cells','diabetesmellitus','pedal_edema']
22     df = pd.dataframe(features_value, columns=features_name)
23     output = model.predict(df)
24     return render_template('result.html', prediction_text=output)
25 if __name__ == '__main__':
26     app.run(debug=True)
```

# HOME.HTML



```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <style>
5     h1 {text-align: center;}
6     p {text-align: center;}
7     div {text-align: center;}
8     /* Style the top navigation bar */
9     .navbar {
10       background-color: #333;
11     }
12
13     /* Style the navigation bar links */
14     .navbar a {
15       float: right;
16       color: white;
17       text-align: right;
18       padding: 14px 20px;
19       text-decoration: underline;
20     }
21
22     /* Right-aligned link */
23     .navbar a.right {
24       float: right;
25     }
26
```

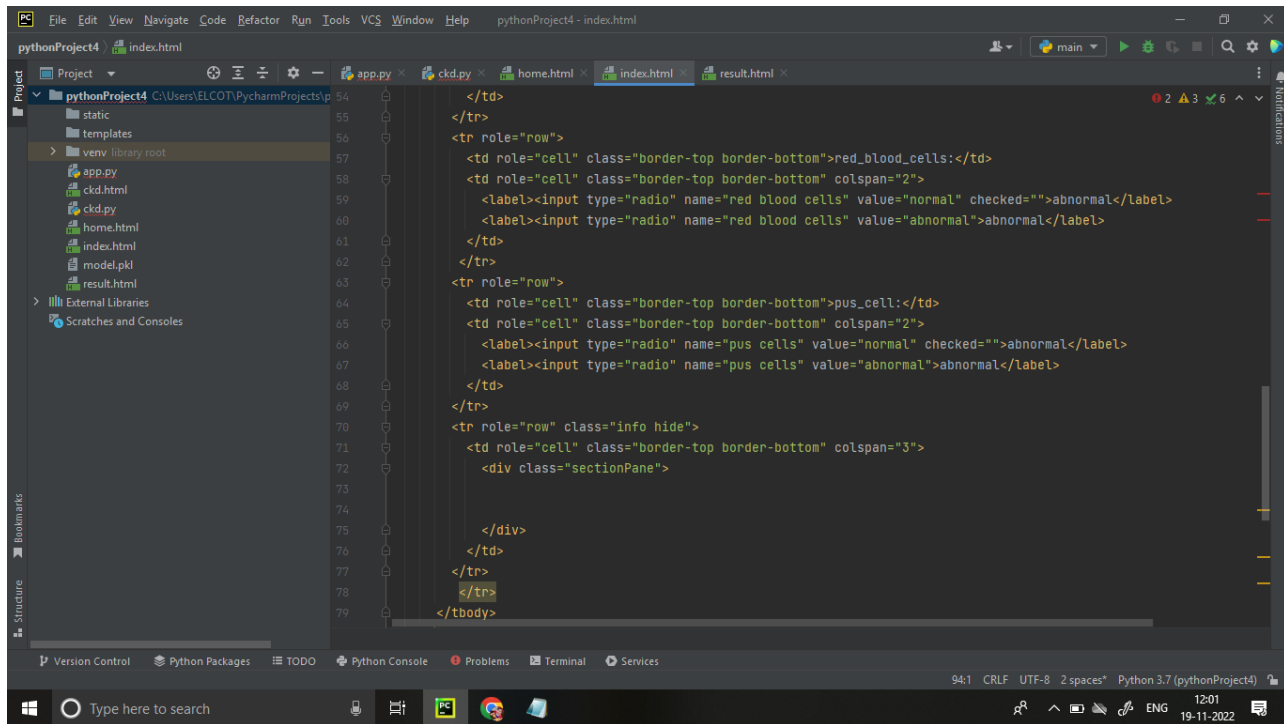


```
56 position: fixed; /* Stay in place */
57 z-index: 1; /* Sit on top */
58 left: 0;
59 top: 0;
60 width: 100%; /* Full width */
61 height: 95%; /* Full height */
62 overflow: auto; /* Enable scroll if needed */
63 background-color: rgb(0,0,0); /* Fallback color */
64 background-color: rgba(0,0,0,0.4); /* Black w/ opacity */
65 padding-top: 100px;
66 }
67
68
69
70
71 </style>
72
73 <div class="navbar">
74   <a href="file:///C:/Program%20Files/Sublime%20Text/cafe.html/index.html">prediction</a>
75
76
77
78
79
80
81
```

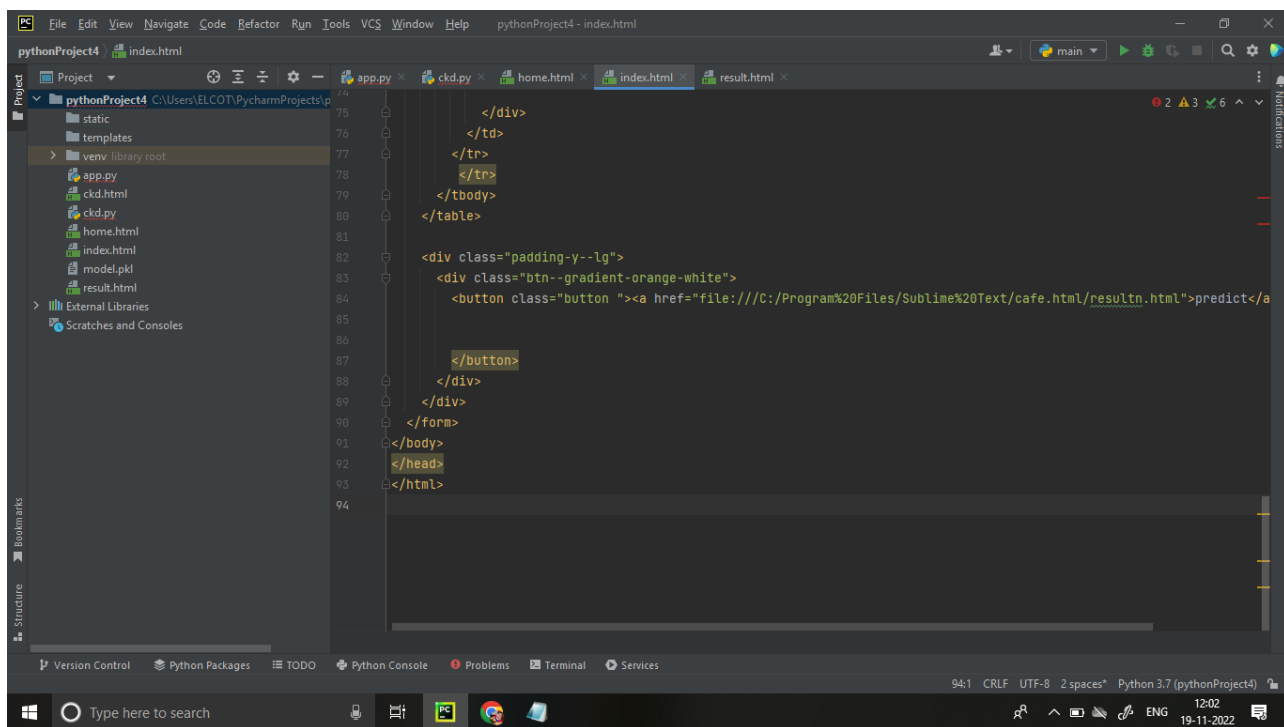
# INDEX.HTML

```
pythonProject4 - index.html
pythonProject4 index.html
Project
  pythonProject4
    static
    templates
    venv
      library
      root
    app.py
    ckd.html
    ckd.py
    home.html
    index.html
    model.pkl
    result.html
  External Libraries
  Scratches and Consoles
Structure
Bookmarks
app.py x ckd.py x home.html x index.html x result.html x
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <style>
5 .center {
6 padding: 70px 0;
7 border: 3px solid green;
8 }
9 </style>
10 </head>
11 <body>
12 <form id="with medical report values">
13 <table role="table">
14 <tbody role="rowgroup">
15 <tr role="row">
16 <td role="cell" class="border-top border-bottom">blood glucose random:</td>
17 <td role="cell" class="border-top border-bottom"><input id="scys" type="text"></td>
18 <td role="cell" class="border-top border-bottom"><label>mg/dL</label></td>
19 </tr>
20 <tr role="row">
21 <td role="cell" class="border-top border-bottom">blood urea:</td>
22 <td role="cell" class="border-top border-bottom"><input id="scys" type="text"></td>
23 <td role="cell" class="border-top border-bottom"><label>mg/dL</label></td>
24 </tr>
25 <tr role="row">
26 <td role="cell" class="border-top border-bottom">diabetesmellitus:</td>
```

```
pythonProject4 - index.html
pythonProject4 index.html
Project
  pythonProject4
    static
    templates
    venv
      library
      root
    app.py
    ckd.html
    ckd.py
    home.html
    index.html
    model.pkl
    result.html
  External Libraries
  Scratches and Consoles
Structure
Bookmarks
app.py x ckd.py x home.html x index.html x result.html x
27 <td role="cell" class="border-top border-bottom" colspan="2">
28 <label><input type="radio" name="diabetesmellitus" value="yes" checked="">Yes</label>
29 <label><input type="radio" name="diabetesmellitus" value="no">No</label>
30 </td>
31 </tr>
32 <tr role="row">
33 <td role="cell" class="border-top border-bottom">coronary_artery_disease:</td>
34 <td role="cell" class="border-top border-bottom" colspan="2">
35 <label><input type="radio" name="coronary artery disease" value="yes" checked="">Yes</label>
36 <label><input type="radio" name="coronary artery disease" value="no">No</label>
37 </td>
38 </tr>
39 <tr role="row">
40 <td role="cell" class="border-top border-bottom">pedal_edema:</td>
41 <td role="cell" class="border-top border-bottom" colspan="2">
42 <label><input type="radio" name="pedal edema" value="yes" checked="">Yes</label>
43 <label><input type="radio" name="pedal edema" value="no">No</label>
44 </td>
45 </tr>
46 <tr role="row">
47 <td role="cell" class="border-top border-bottom">anemia:</td>
48 <td role="cell" class="border-top border-bottom" colspan="2">
49 <label><input type="radio" name="anemia" value="yes" checked="">Yes</label>
50 <label><input type="radio" name="anemia" value="no">No</label>
51 </td>
52 </tr>
```



```
54 </td>
55 </tr>
56 <tr role="row">
57 <td role="cell" class="border-top border-bottom">red_blood_cells:</td>
58 <td role="cell" class="border-top border-bottom" colspan="2">
59 <label><input type="radio" name="red blood cells" value="normal" checked="">normal</label>
60 <label><input type="radio" name="red blood cells" value="abnormal">abnormal</label>
61 </td>
62 </tr>
63 <tr role="row">
64 <td role="cell" class="border-top border-bottom">pus_cell:</td>
65 <td role="cell" class="border-top border-bottom" colspan="2">
66 <label><input type="radio" name="pus cells" value="normal" checked="">normal</label>
67 <label><input type="radio" name="pus cells" value="abnormal">abnormal</label>
68 </td>
69 </tr>
70 <tr role="row" class="info hide">
71 <td role="cell" class="border-top border-bottom" colspan="3">
72 <div class="sectionPane">
73
74
75 </div>
76 </td>
77 </tr>
78 </tbody>
79 </table>
```



```
75 </div>
76 </td>
77 </tr>
78 </tbody>
79 </table>
80
81 <div class="padding-y--lg">
82 <div class="btn--gradient-orange-white">
83 <button class="button" "><a href="file:///C:/Program%20Files/Sublime%20Text/cafe.html/resultn.html">predict</a>
84
85 </button>
86 </div>
87 </div>
88 </div>
89 </form>
90 </body>
91 </head>
92 </html>
93
94
```

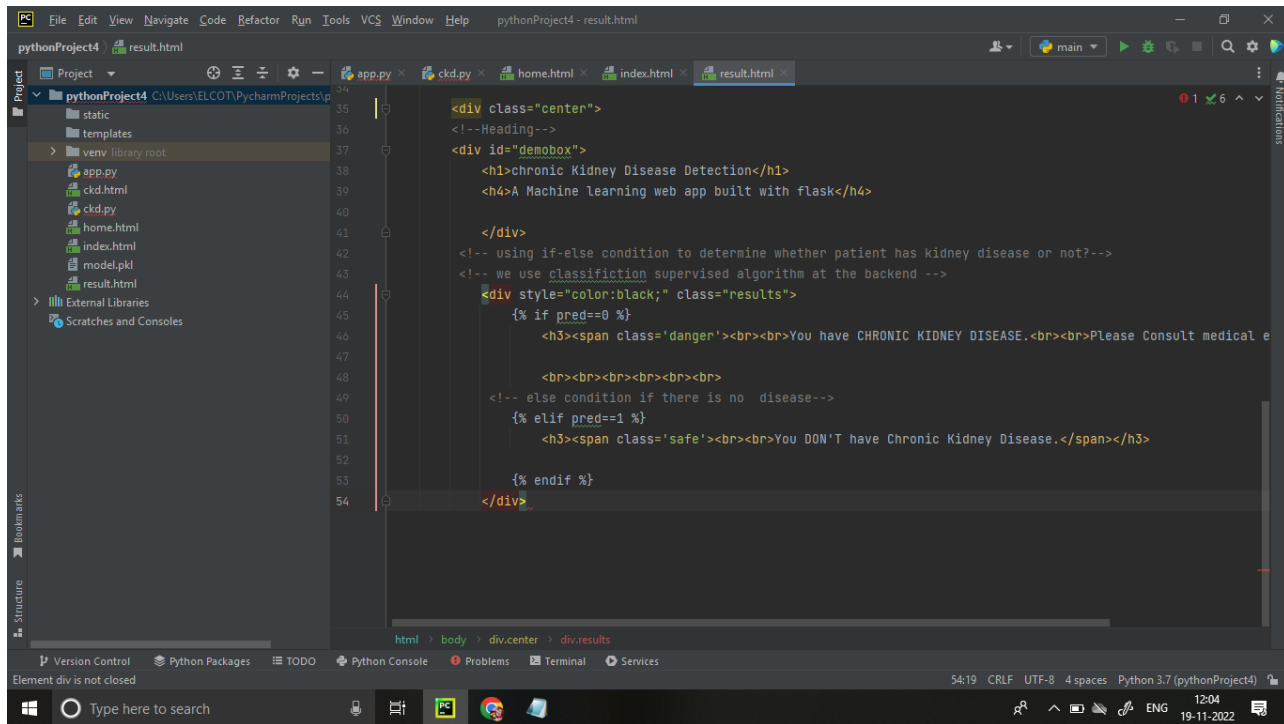
## RESULT.HTML

This screenshot shows the initial setup of the `result.html` file in the PyCharm IDE. The file is located within the `pythonProject4` project. The code defines the basic HTML structure, including the `<!DOCTYPE html>` declaration, `<html>` tags, and a `<head>` section. The `<head>` section includes a title "Early detection of chronic kidney disease", a comment about inserting a CSS page, and a `<link>` tag for a stylesheet. A `<style>` block is also present, defining styles for `h1`, `h3`, `h2`, and `p` elements. The IDE interface includes a Project view on the left, a main editor window, and a bottom status bar.

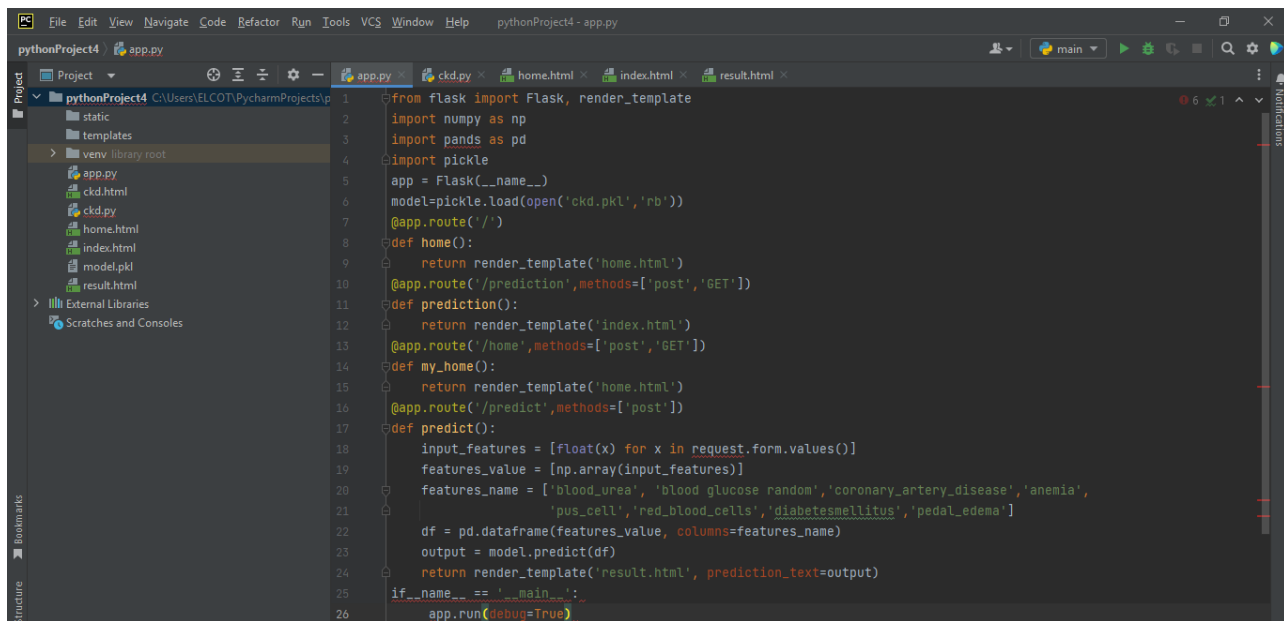
```
1 <!DOCTYPE html>
2 <html>
3   <!-- creating a header and title for the website -->
4   <head>
5     <title>Early detection of chronic kidney disease</title>
6     <!-- Inserting css page-->
7     <link rel="stylesheet" type="text/css" href="/static/stylesheet/Finalpage.css">
8   </head>
9
10
11   <!-- Adjusting the style and alignment of the Headers-->
12
13   <style>
14     h1{
15       font-family: 'Pacifico', cursive;
16       text-align:center ;
17     }
18
19     h3{
20       font-family: 'bold', cursive;
21     }
22     h2{
23       text-align: center;
24       margin-top: 70px;
25     }
26     p{
```

This screenshot shows the continuation of the `result.html` file. The code defines the `body` section, starting with a `<div class="center">` block. Inside this block, there is a heading `<h1>` and a `<h4>` element. A `<div id="demobox">` block is also present, containing a `<h3>` element. The code then uses an `if-else` condition to determine whether a patient has kidney disease or not, based on a `pred` variable. The `if` condition is `pred==0`, and the `else` condition is `pred==1`. The `if` block contains a `<h3>` element with a `class="danger"` attribute, and the `else` block contains a `<h3>` element with a `class="safe"` attribute. The IDE interface includes a Project view on the left, a main editor window, and a bottom status bar.

```
27     color: #fc466b ;
28   }
29
30 </style>
31 <!-- creating the body of the web page using if-else method-->
32 <body>
33   <!-- creating a division to using the class center-->
34
35   <div class="center">
36     <!--Heading-->
37     <div id="demobox">
38       <h1>chronic Kidney Disease Detection</h1>
39       <h4>A Machine learning web app built with flask</h4>
40
41     </div>
42     <!-- using if-else condition to determine whether patient has kidney disease or not?-->
43     <!-- we use classification supervised algorithm at the backend -->
44     <div style="color:black;" class="results">
45       {% if pred==0 %}
46       <h3><span class='danger'><br><br>You have CHRONIC KIDNEY DISEASE.<br><br>Please Consult medical e
47
48       <br><br><br><br><br><br>
49       <!-- else condition if there is no disease-->
50       {% elif pred==1 %}
51       <h3><span class='safe'><br><br>You DON'T have Chronic Kidney Disease.</span></h3>
52     </div>
```



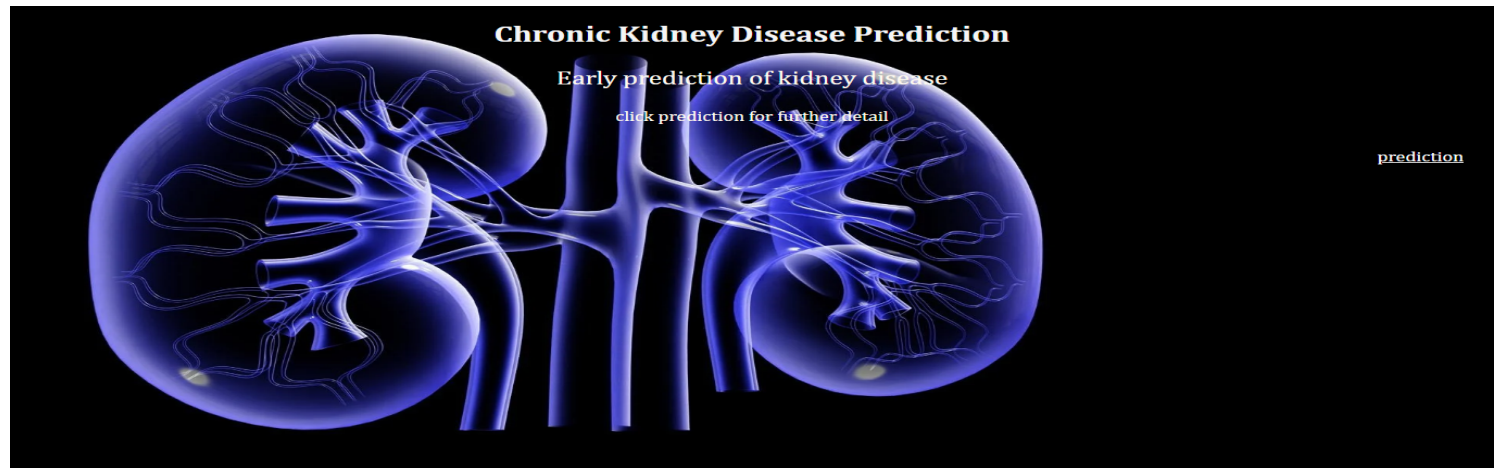
## LOCAL DEPLOYMENT



```

* Serving Flask app "app" (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: off
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)

```



## TEST CASE 1 :CKD

blood glucose random:  mg/dL

blood\_urea:  mg/dL

diabetesmellitus: ☒ yes ☐ no

coronary\_artery\_disease: ☒ Yes ☐ No

pedal\_edema: ☒ Yes ☐ No

anemia: ☒ Yes ☐ No

red\_blood\_cells: ☒ abnormal ☐ abnormal

pus\_cell: ☒ abnormal ☐ abnormal



## Chronic Kidney Disease Prediction

[0]

you have CHRONIC KIDNEY DISEASE

please do consult medical expert



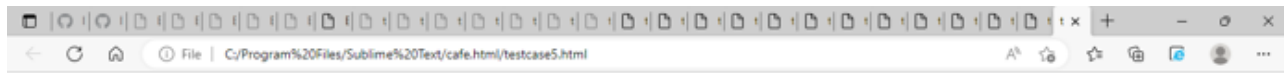
## TEST CASE 2 : NO CKD



blood glucose random:  mg/dL  
blood\_urea:  mg/dL  
diabetesmellitus: ☐ yes ☒ no  
coronary\_artery\_disease: ☐ Yes ☒ No  
pedal\_edema: ☐ Yes ☒ No  
anemia: ☐ Yes ☒ No  
red\_blood\_cells: ☐ abnormal ☒ abnormal  
pus\_cell: ☐ abnormal ☒ abnormal







## Chronic Kidney Disease Prediction

[1]

you DON'T have chronic kidney disease



## TEST CASE 3 CKD



blood glucose random:  mg/dL  
blood\_urea:  mg/dL  
diabetesmellitus: ☒ yes ☐ no  
coronary\_artery\_disease: ☒ Yes ☐ No  
pedal\_edema: ☒ Yes ☐ No  
anemia: ☒ Yes ☐ No  
red\_blood\_cells: ☒ abnormal ☐ abnormal  
pus\_cell: ☒ abnormal ☐ abnormal





## Chronic Kidney Disease Prediction

[?]

you have CHRONIC KIDNEY DISEASE

please do consult medical expert

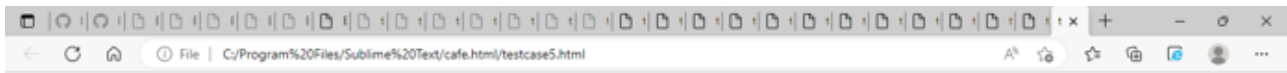


## TEST CASE 4:NO CKD



blood glucose random:  mg/dL  
blood\_urea:  mg/dL  
diabetesmellitus: ☐ yes ☒ no  
coronary\_artery\_disease: ☐ Yes ☒ No  
pedal\_edema: ☐ Yes ☒ No  
anemia: ☐ Yes ☒ No  
red\_blood\_cells: ☐ abnormal ☒ abnormal  
pus\_cell: ☐ abnormal ☒ abnormal





## Chronic Kidney Disease Prediction

[3]

you DON'T have chronic kidney disease



## TEST CASE 5 : CKD



blood glucose random:  mg/dL  
blood\_urea:  mg/dL  
diabetesmellitus: ☒ yes ☐ no  
coronary\_artery\_disease: ☒ Yes ☐ No  
pedal\_edema: ☒ Yes ☐ No  
anemia: ☒ Yes ☐ No  
red\_blood\_cells: ☒ abnormal ☐ abnormal  
pus\_cell: ☒ abnormal ☐ abnormal





## Chronic Kidney Disease Prediction

[0]

you have CHRONIC KIDNEY DISEASE

please do consult medical expert

