

PNT2022TMID41437

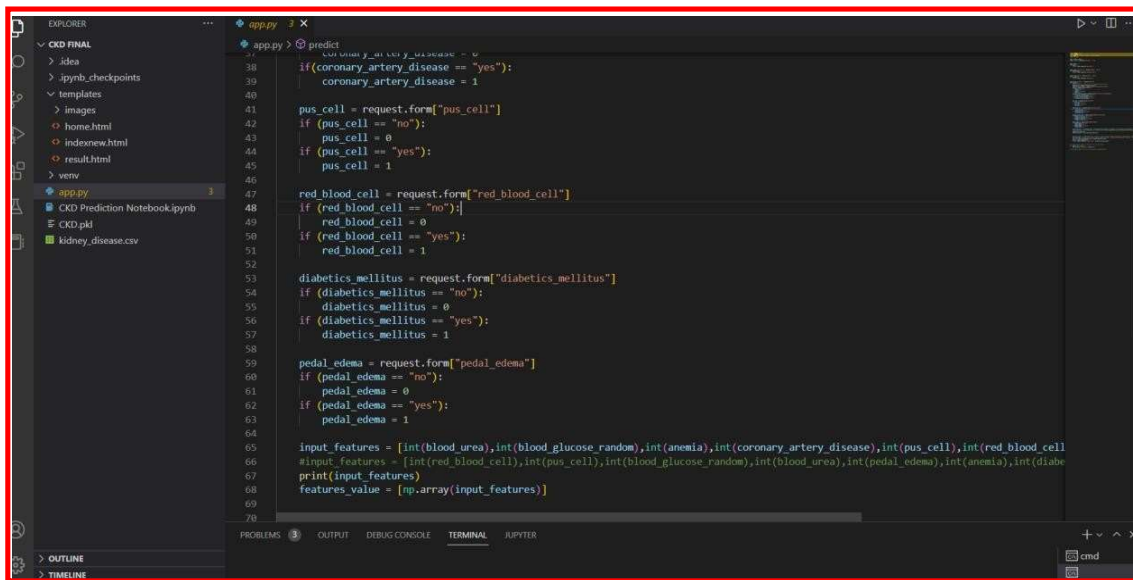
DATE: 14.11.2022

EARLY DETECTION OF CHRONIC KIDNEY DISEASE

SPRINT 3

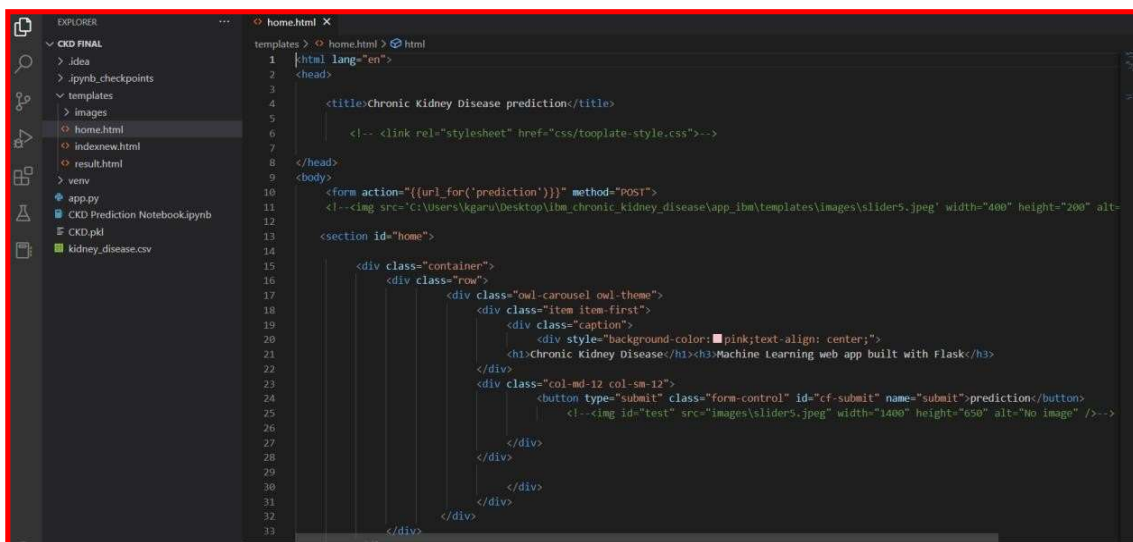
In this sprint we are doing local deployment

App.py code screen

A screenshot of a code editor showing the app.py file. The code is a Flask application for predicting Chronic Kidney Disease. It includes a predict function that takes form data for coronary_artery_disease, pus_cell, red_blood_cell, diabetics_mellitus, and pedal_edema. It also includes a main function that generates random input features and prints them. The code is written in Python and uses the Flask and numpy libraries.

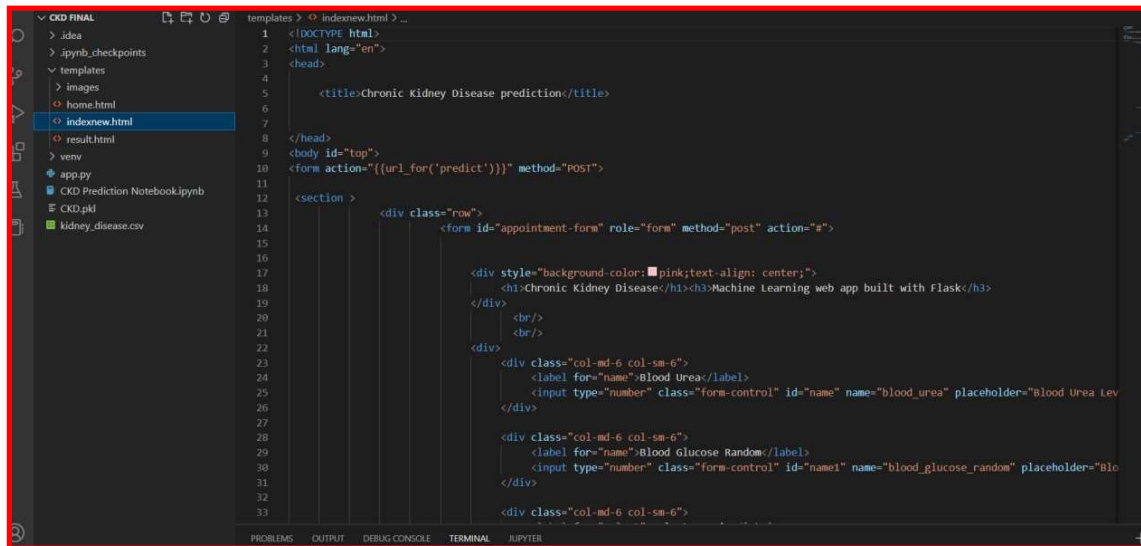
```
37 def predict:
38     if(coronary_artery_disease == "yes"):
39         coronary_artery_disease = 1
40
41     pus_cell = request.form["pus_cell"]
42     if (pus_cell == "no"):
43         pus_cell = 0
44     if (pus_cell == "yes"):
45         pus_cell = 1
46
47     red_blood_cell = request.form["red_blood_cell"]
48     if (red_blood_cell == "no"):
49         red_blood_cell = 0
50     if (red_blood_cell == "yes"):
51         red_blood_cell = 1
52
53     diabetics_mellitus = request.form["diabetics_mellitus"]
54     if (diabetics_mellitus == "no"):
55         diabetics_mellitus = 0
56     if (diabetics_mellitus == "yes"):
57         diabetics_mellitus = 1
58
59     pedal_edema = request.form["pedal_edema"]
60     if (pedal_edema == "no"):
61         pedal_edema = 0
62     if (pedal_edema == "yes"):
63         pedal_edema = 1
64
65     input_features = [int(blood_urea),int(blood_glucose_random),int(anemia),int(coronary_artery_disease),int(pus_cell),int(red_blood_cell)
66     #input_features = [int(red_blood_cell),int(pus_cell),int(blood_glucose_random),int(blood_urea),int(pedal_edema),int(anemia),int(diabe
67     print(input_features)
68     features_value = np.array(input_features)
69
70
```

HOME.HTML CODE SCREEN

A screenshot of a code editor showing the home.html file. The code is an HTML template for a Chronic Kidney Disease prediction web application. It includes a form for prediction and a carousel for the application title. The code is written in HTML and uses Bootstrap for styling.

```
1 <html lang="en">
2 <head>
3
4     <title>Chronic Kidney Disease prediction</title>
5
6     <!-- <link rel="stylesheet" href="css/tooplate-style.css">-->
7
8 </head>
9 <body>
10
11     <!--<img src='C:\Users\kgaru\Desktop\libm_chronic_kidney_disease\app\libm\templates\images\slider5.jpeg' width="400" height="200" alt=
12
13     <section id="home">
14
15         <div class="container">
16             <div class="row">
17                 <div class="owl-carousel owl-theme">
18                     <div class="item item-first">
19                         <div class="caption">
20                             <div style="background-color: #pink;text-align: center;">
21                                 <h1>Chronic Kidney Disease</h1><h3>Machine Learning web app built with Flask</h3>
22                             </div>
23                         <div class="col-md-12 col-sm-12">
24                             <button types="submit" class="form-control" id="cf-submit" name="submit">prediction</button>
25                             <!---->
26                         </div>
27                     </div>
28                 </div>
29             </div>
30         </div>
31     </div>
32
33 </div>
```

INDEXNEW.HTML CODE SCREEN



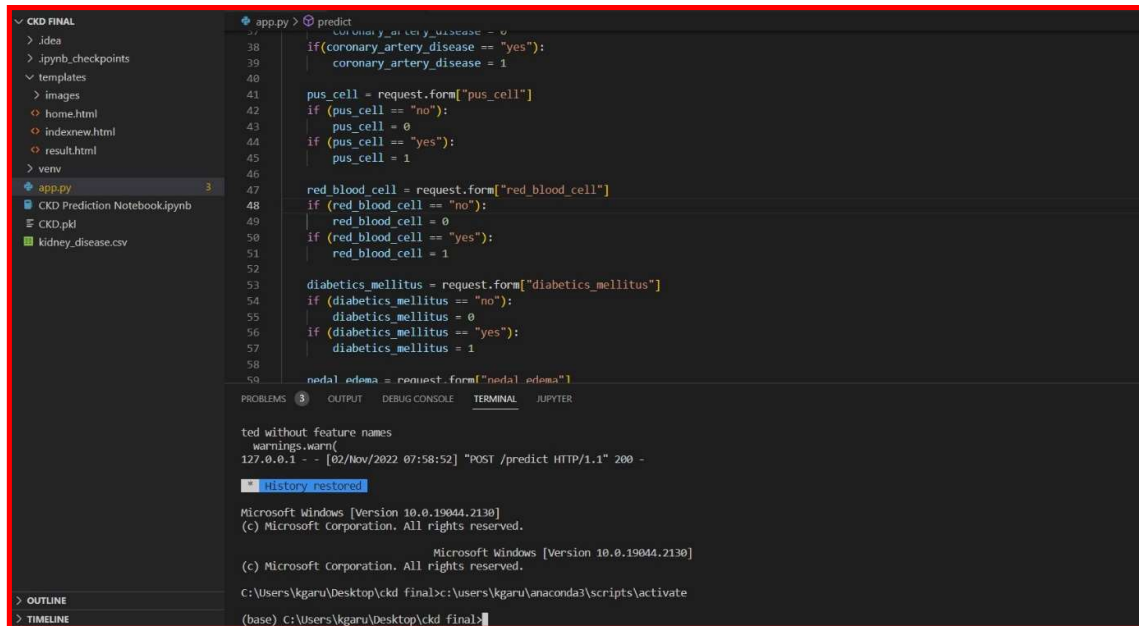
```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4
5     <title>Chronic Kidney Disease prediction</title>
6
7 </head>
8 <body id="top">
9     <form action="{{url_for('predict')}}" method="POST">
10
11 <section>
12
13         <div class="row">
14             <div class="col-md-6 col-sm-6">
15                 <div class="col-md-6 col-sm-6">
16                     <div class="col-md-6 col-sm-6">
17                         <div style="background-color: #pink;text-align: center;">
18                             <h1>Chronic Kidney Disease</h1><h3>Machine Learning web app built with Flask</h3>
19                         </div>
20                         <br/>
21                         <br/>
22                     </div>
23                     <div class="col-md-6 col-sm-6">
24                         <div class="col-md-6 col-sm-6">
25                             <label for="name">Blood Urea</label>
26                             <input type="number" class="form-control" id="name" name="blood_urea" placeholder="Blood Urea Lev">
27                         </div>
28                         <div class="col-md-6 col-sm-6">
29                             <label for="name">Blood Glucose Random</label>
30                             <input type="number" class="form-control" id="name1" name="blood_glucose_random" placeholder="Blood Glucose Random">
31                         </div>
32                     </div>
33                 </div>
34             </div>
35         </div>
36     </form>
37 </body>
38 </html>
```

RESULT.HTML CODE SCREEN



```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4
5 </head>
6 <body id="top">
7     <section>
8         <div class="container">
9             <div class="row">
10
11                 <div class="col-md-8 col-sm-7">
12                     <div style="background-color: #pink;text-align: center;">
13                         <h1>Chronic Kidney Disease</h1><h3>Machine Learning web app built with Flask</h3>
14                     </div>
15                     <br/>
16                     <br/>
17                 </div>
18                 <div class="col-md-8 col-sm-7">
19                     <div class="col-md-8 col-sm-7">
20                         <div class="col-md-8 col-sm-7">
21                             <div style="background-color: #pink;text-align: center;">
22                                 <h2>Medical Result</h2>
23                                 <p>Your Condition is normal.</p>
24                                 <blockquote>You are not having chronic kidney disease.</blockquote>
25                                 
26                             </div>
27                         </div>
28                     </div>
29                 </div>
30             </div>
31         </div>
32     </section>
33 </body>
34 </html>
```

LOCAL DEPLOYMENT CODE SCREEN



```
CKD FINAL
├── .idea
├── .ipynb_checkpoints
├── templates
│   ├── images
│   ├── home.html
│   ├── indexnew.html
│   ├── result.html
│   └── venv
├── app.py
├── CKD Prediction Notebook.ipynb
├── CKD.pkl
└── kidney_disease.csv

app.py
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terminal
ted without feature names
warnings.warn(
127.0.0.1 - - [02/Nov/2022 07:58:52] "POST /predict HTTP/1.1" 200 -

History restored

Microsoft Windows [Version 10.0.19044.2130]
(c) Microsoft Corporation. All rights reserved.

Microsoft Windows [Version 10.0.19044.2130]
(c) Microsoft Corporation. All rights reserved.

C:\Users\kgaru\Desktop\ckd final>c:\users\kgaru\anaconda3\scripts\activate

(base) C:\Users\kgaru\Desktop\ckd final>conda activate deployment

(deployment) C:\Users\kgaru\Desktop\ckd final>
```

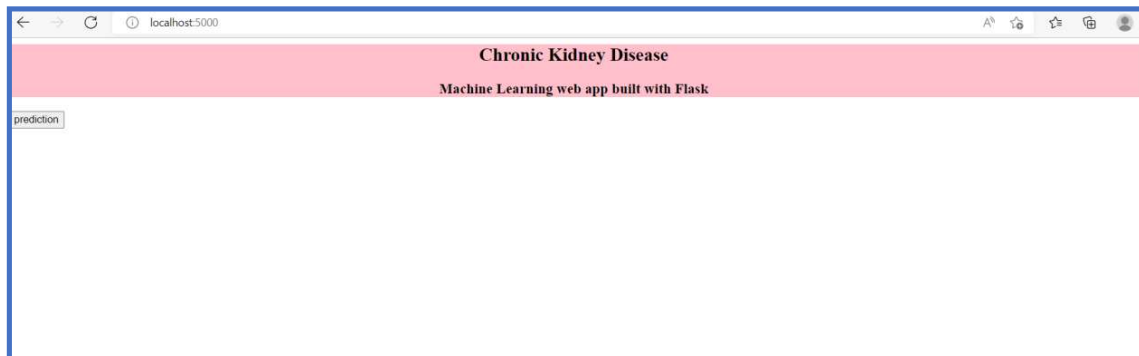
```
Microsoft Windows [Version 10.0.19044.2130]
(c) Microsoft Corporation. All rights reserved.

C:\Users\kgaru\Desktop\ckd final>c:\users\kgaru\anaconda3\scripts\activate

(base) C:\Users\kgaru\Desktop\ckd final>conda activate deployment

(deployment) C:\Users\kgaru\Desktop\ckd final>
```

```
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://localhost:5000
Press CTRL+C to quit
* Restarting with stat
c:\Users\kgaru\anaconda3\envs\deployment\lib\site-packages\sklearn\base.py:329: UserWarning: Trying to unpickle estimator DecisionTreeClassifier from version 1.0.2 when using version 1.1.2. This might lead to breaking code or invalid results. Use at your own risk. For more info please refer to: https://scikit-learn.org/stable/model_persistence.html#security-maintainability-limitations
warnings.warn(
c:\Users\kgaru\anaconda3\envs\deployment\lib\site-packages\sklearn\base.py:329: UserWarning: Trying to unpickle estimator RandomForestClassifier from version 1.0.2 when using version 1.1.2. This might lead to breaking code or invalid results. Use at your own risk. For more info please refer to: https://scikit-learn.org/stable/model_persistence.html#security-maintainability-limitations
warnings.warn(
* Debugger is active!
* Debugger PIN: 847-133-482
```



TEST CASE 1: CKD

Chronic Kidney Disease

Machine Learning web app built with Flask

prediction

Chronic Kidney Disease

Machine Learning web app built with Flask

Blood Urea 90

Blood Glucose Random 157

Select Anemia no

Select Coronary Artery Disease yes

Select Pus Cell yes

Select Red Blood Cell no

Select Diabetes Mellitus yes

Select Pedal Edema yes

predict

Chronic Kidney Disease

Machine Learning web app built with Flask

[0]

Medical Result

Your Condition is abnormal.

You are having chronic kidney disease.

TEST CASE 2: NO CKD

Chronic Kidney Disease

Machine Learning web app built with Flask

prediction

Chronic Kidney Disease

Machine Learning web app built with Flask

Blood Urea46

Blood Glucose Random117

Select Anemia (no)

Select Coronary Artery Disease (no)

Select Pus Cell (no)

Select Red Blood Cell (no)

Select Diabetes Mellitus (no)

Select Pedal Edema (no)

predict

Chronic Kidney Disease

Machine Learning web app built with Flask

[1]

Medical Result

Your Condition is normal.

You are not having chronic kidney disease.

TEST CASE 3: CKD

Chronic Kidney Disease

Machine Learning web app built with Flask

prediction

Chronic Kidney Disease

Machine Learning web app built with Flask

Blood Urea 148

Blood Glucose Random 173

Select Anemia yes

Select Coronary Artery Disease yes

Select Pts Cell no

Select Red Blood Cell no

Select Diabetes Mellitus yes

Select Pedal Edema yes

predict

Chronic Kidney Disease

Machine Learning web app built with Flask

[0]

Medical Result

Your Condition is abnormal.

You are having chronic kidney disease.

TEST CASE 4: NO CKD

Chronic Kidney Disease

Machine Learning web app built with Flask

prediction

Chronic Kidney Disease

Machine Learning web app built with Flask

Blood Urea

Blood Glucose Random

Select Anemia

no

Select Coronary Artery Disease

no

Select Pus Cell

no

Select Red Blood Cell

no

Select Diabetes Mellitus

no

Select Pedal Edema

no

predict

Chronic Kidney Disease

Machine Learning web app built with Flask

[1]

Medical Result

Your Condition is normal.

You are not having chronic kidney disease.

TEST CASE 5: NO CKD

Chronic Kidney Disease

Machine Learning web app built with Flask

prediction

Chronic Kidney Disease

Machine Learning web app built with Flask

Blood Urea129

Blood Glucose Random99

Select Anemia

no

Select Coronary Artery Disease

no

Select Pus Cell

no

Select Red Blood Cell

no

Select Diabetes Mellitus

no

Select Pedal Edema

no

predict

Chronic Kidney Disease

Machine Learning web app built with Flask

[1]

Medical Result

Your Condition is normal.

You are not having chronic kidney disease.