

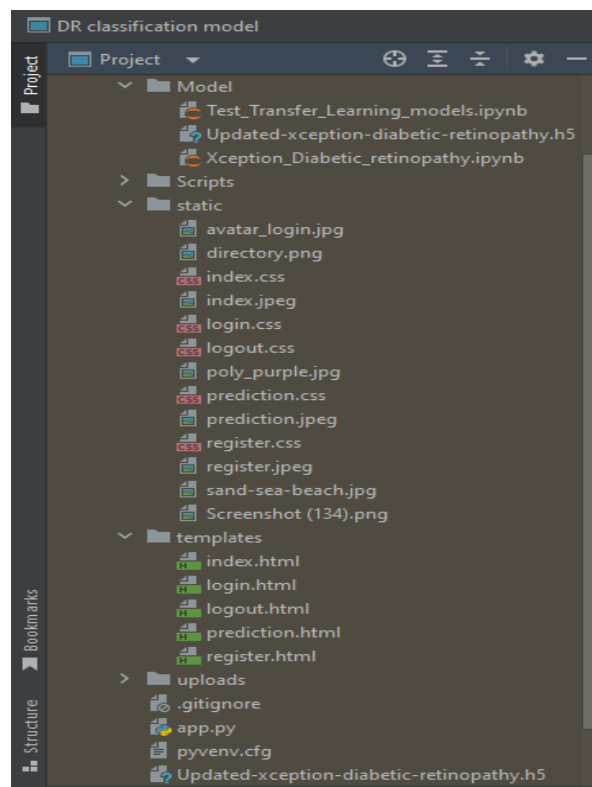
# PROJECT DEVELOPMENT PHASE

## SPRINT 4

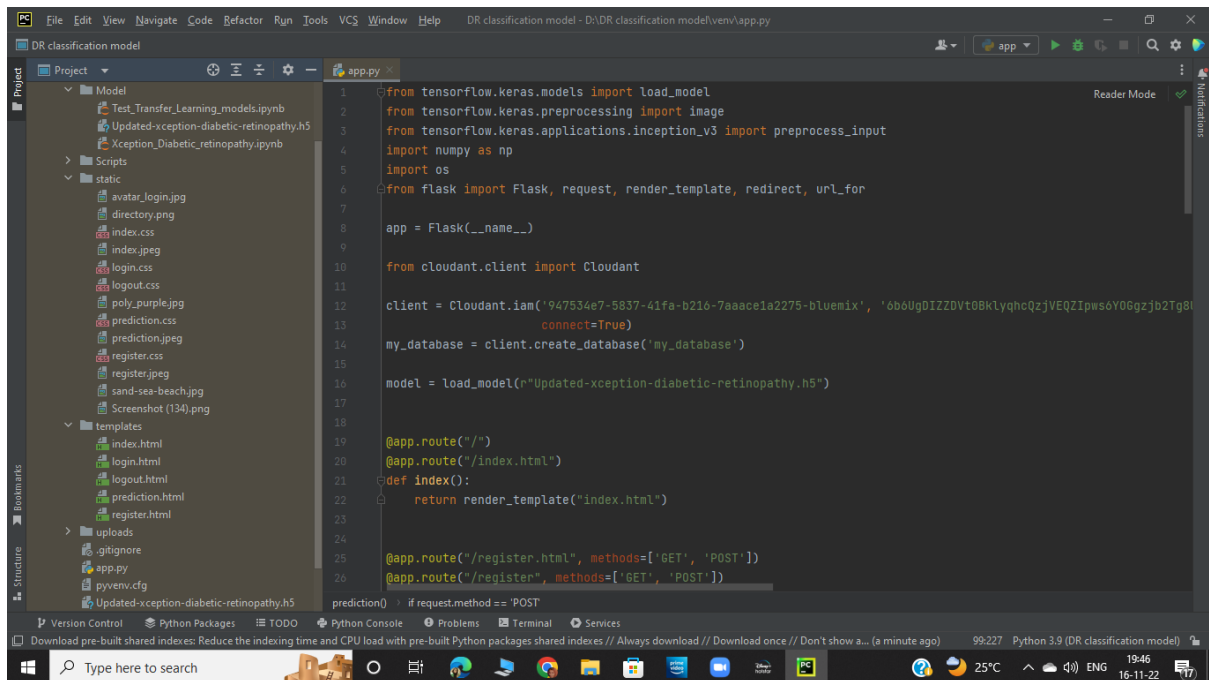
Date	16 November 2022
Team ID	PNT2022TMID23190
Project Name	<b>Deep learning Fundus image analysis for early detection of Diabetic Retinopathy.</b>

### PROJECT STRUCTURE:

- We are building a flask application which needs HTML pages stored in the templates folder,CSS,Images stored in a static folder and a python script app.py for scripting.
- Updated-Xception-diabetic-retinopathy.h5 is our saved model. Further we will use this model for flask integration.
- Model contains model training files.

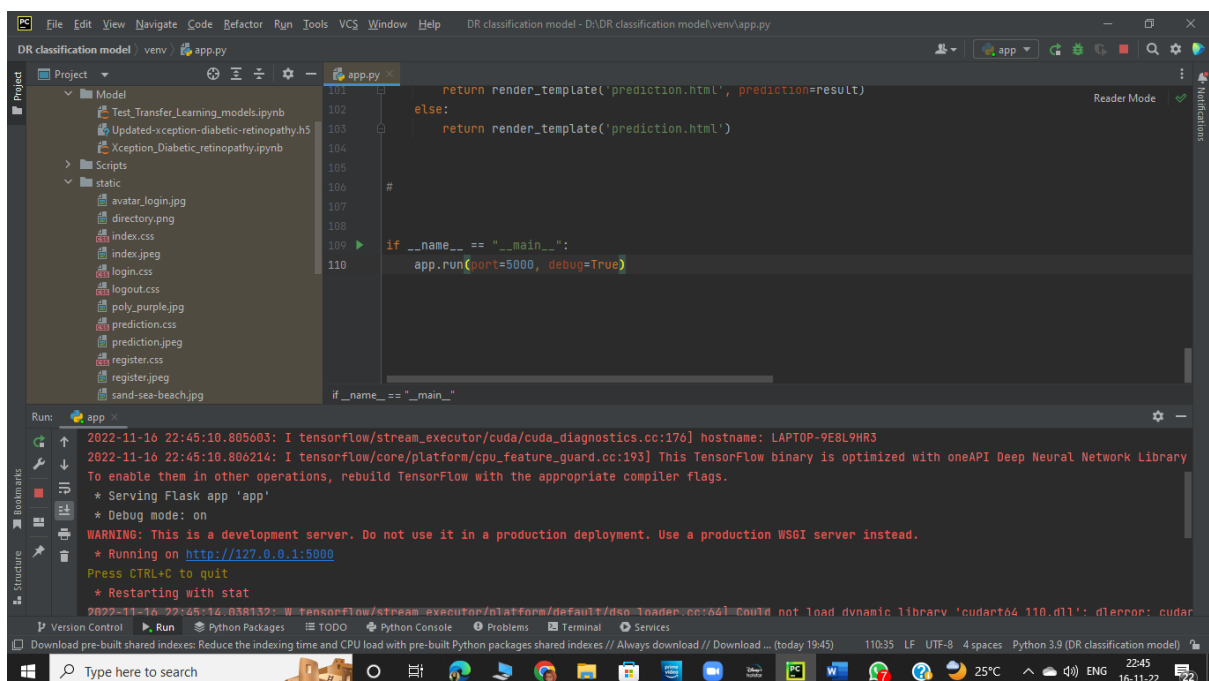


## PYTHON CODE:



```
1 from tensorflow.keras.models import load_model
2 from tensorflow.keras.preprocessing import image
3 from tensorflow.keras.applications.inception_v3 import preprocess_input
4 import numpy as np
5 import os
6 from flask import Flask, request, render_template, redirect, url_for
7
8 app = Flask(__name__)
9
10 from cloudant.client import Cloudant
11
12 client = Cloudant.iam('947534e7-5837-41fa-b216-7aaace1a2275-bluemix', '0b0UgDIZZDvT0BklyqhcQzrjVEQZIpws6Y0Ggzjb2Tg8')
13 connect=True)
14 my_database = client.create_database('my_database')
15
16 model = load_model(r"Updated-xception-diabetic-retinopathy.h5")
17
18
19 @app.route("/")
20 @app.route("/index.html")
21 def index():
22     return render_template("index.html")
23
24
25 @app.route("/register.html", methods=['GET', 'POST'])
26 @app.route("/register", methods=['GET', 'POST'])
27 def register():
28     if request.method == 'POST':
29         prediction()
30         return render_template("prediction.html", prediction=result)
31     else:
32         return render_template("prediction.html")
33
34 #
35
36 if __name__ == "__main__":
37     app.run(port=5000, debug=True)
```

## RUN THE PYTHON CODE



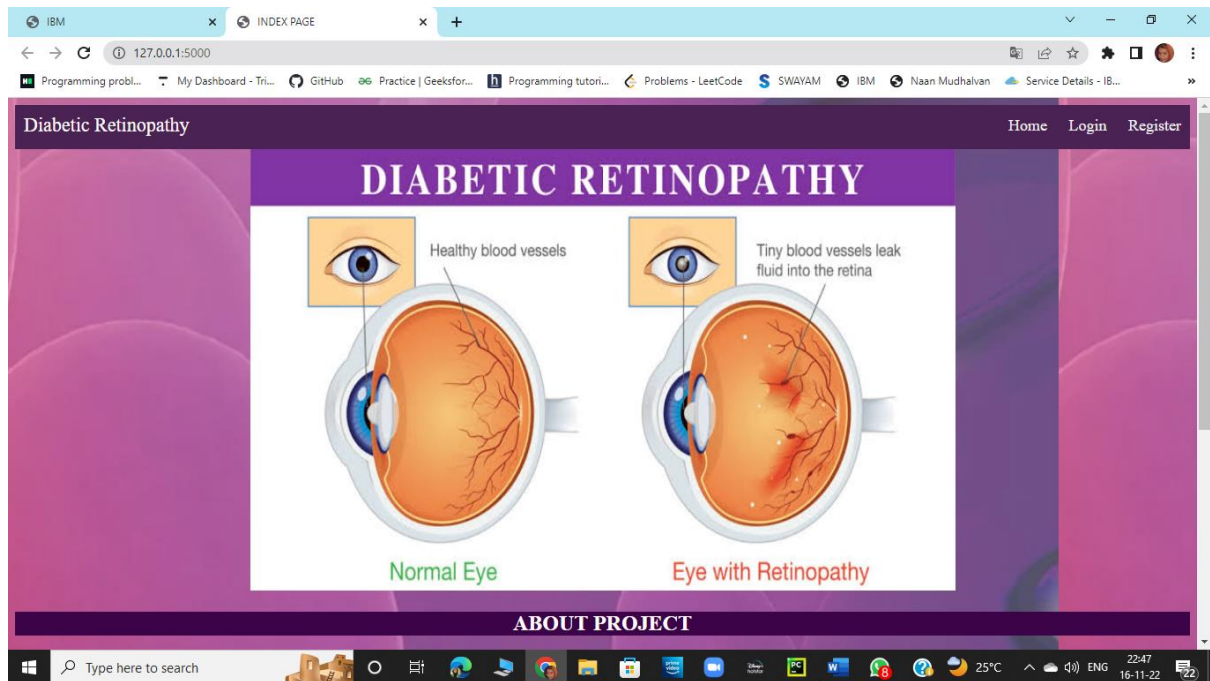
```
111 return render_template('prediction.html', prediction=result)
112 else:
113     return render_template('prediction.html')
114
115 #
116
117 if __name__ == "__main__":
118     app.run(port=5000, debug=True)
```

```
Run:
2022-11-16 22:45:10.805603: I tensorflow/stream_executor/cuda/cuda_diagnostics.cc:176] hostname: LAPTOP-9E8L9HR3
2022-11-16 22:45:10.806214: I tensorflow/core/platform/cpu_feature_guard.cc:193] This TensorFlow binary is optimized with oneAPI Deep Neural Network Library
To enable them in other operations, rebuild TensorFlow with the appropriate compiler flags.
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with stat
2022-11-16 22:45:14.038132: W tensorflow/stream_executor/platform/default/dso_loader.cc:64] Could not load dynamic library 'cudart64_110.dll': dlopen: cuda
```

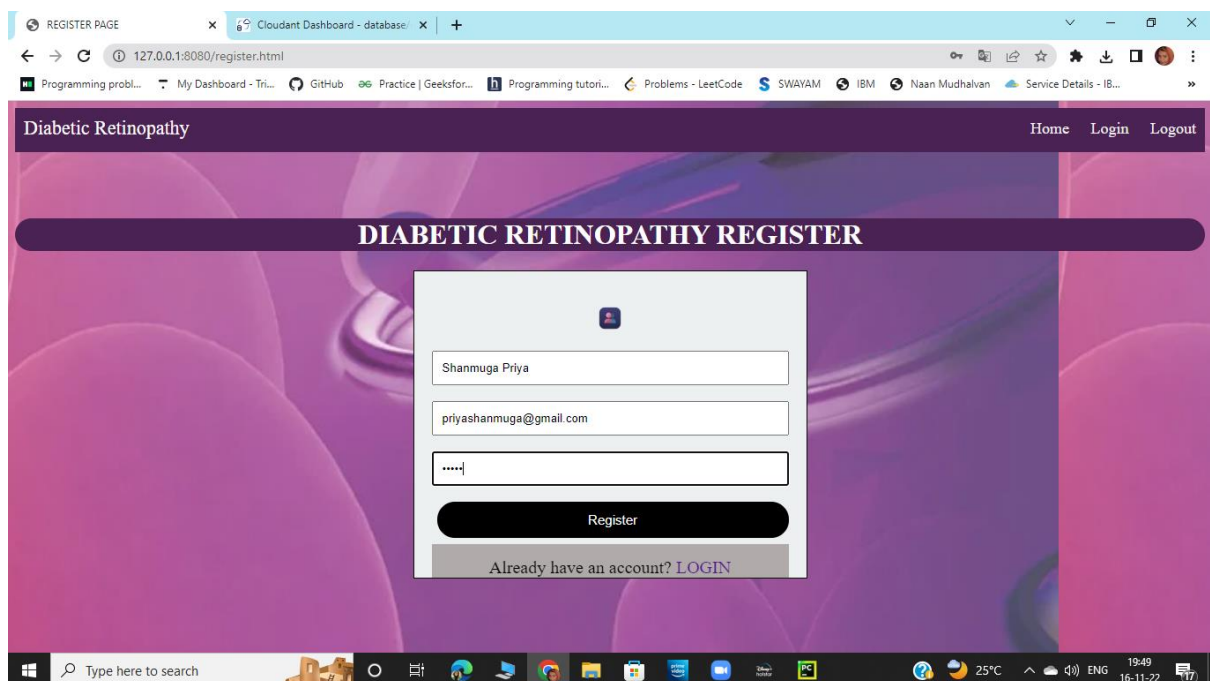
When the python file is executed, the localhost is activated on 5000 port and can be accessed through it. Open the browser and navigate to localhost:5000 to check your application

The home page looks like this. You can click on login or register.

## HOME:

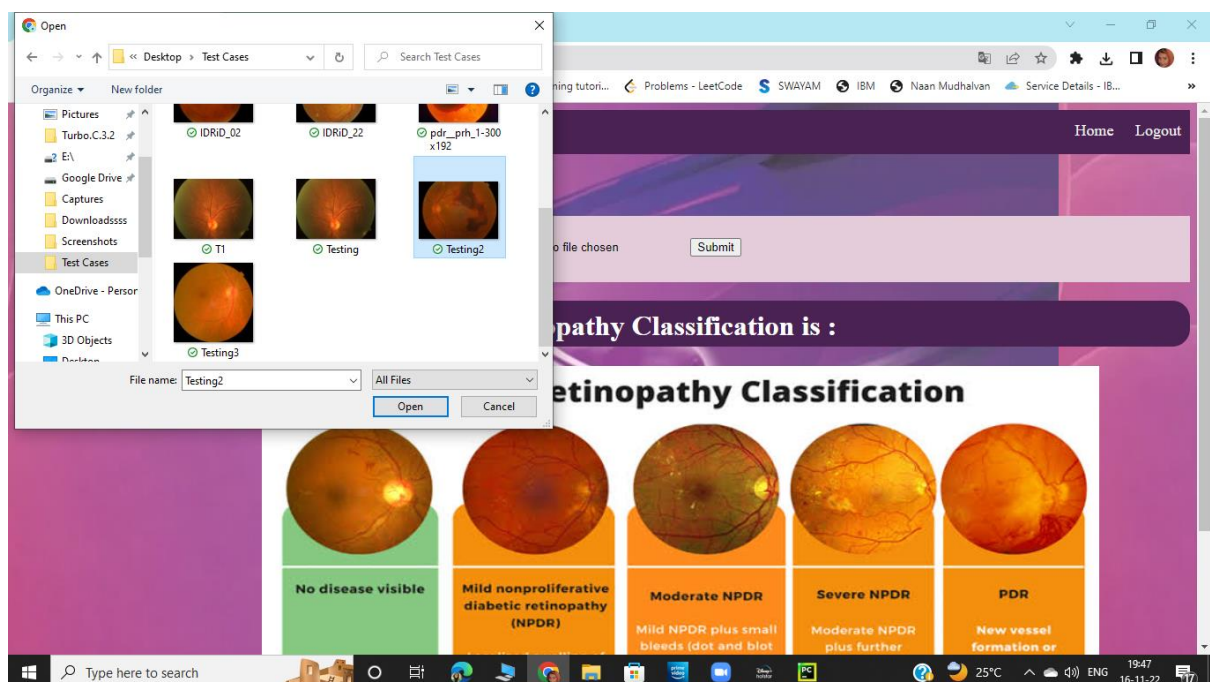
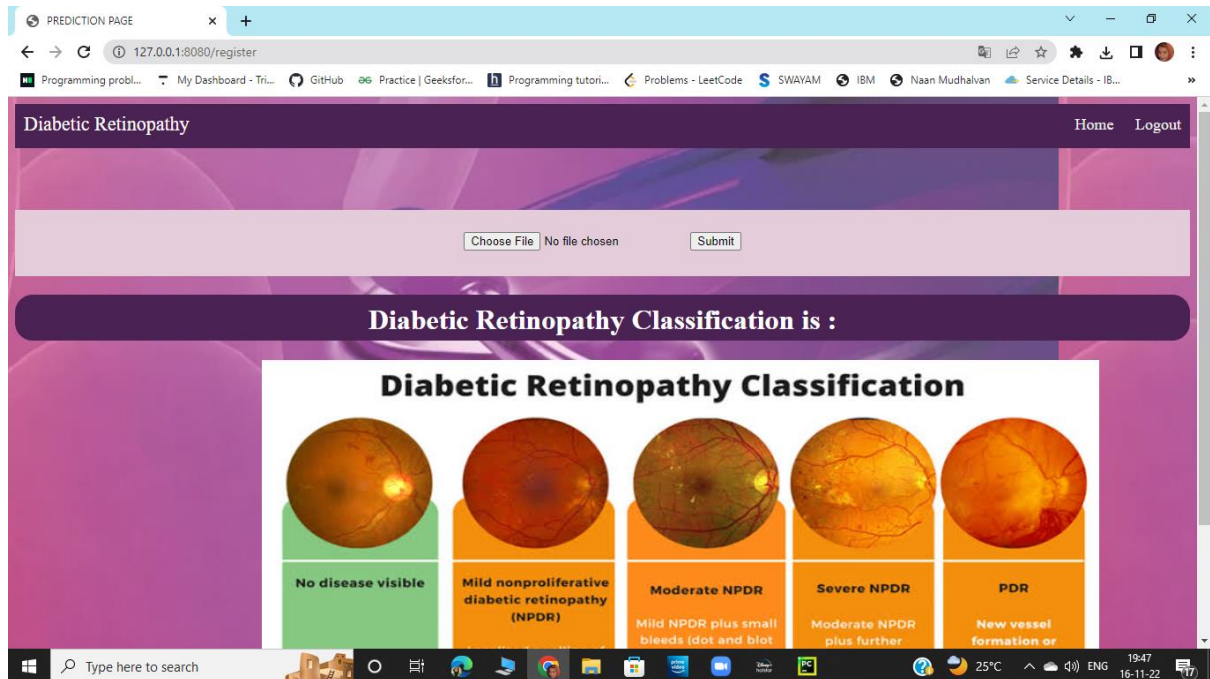


## REGISTER:

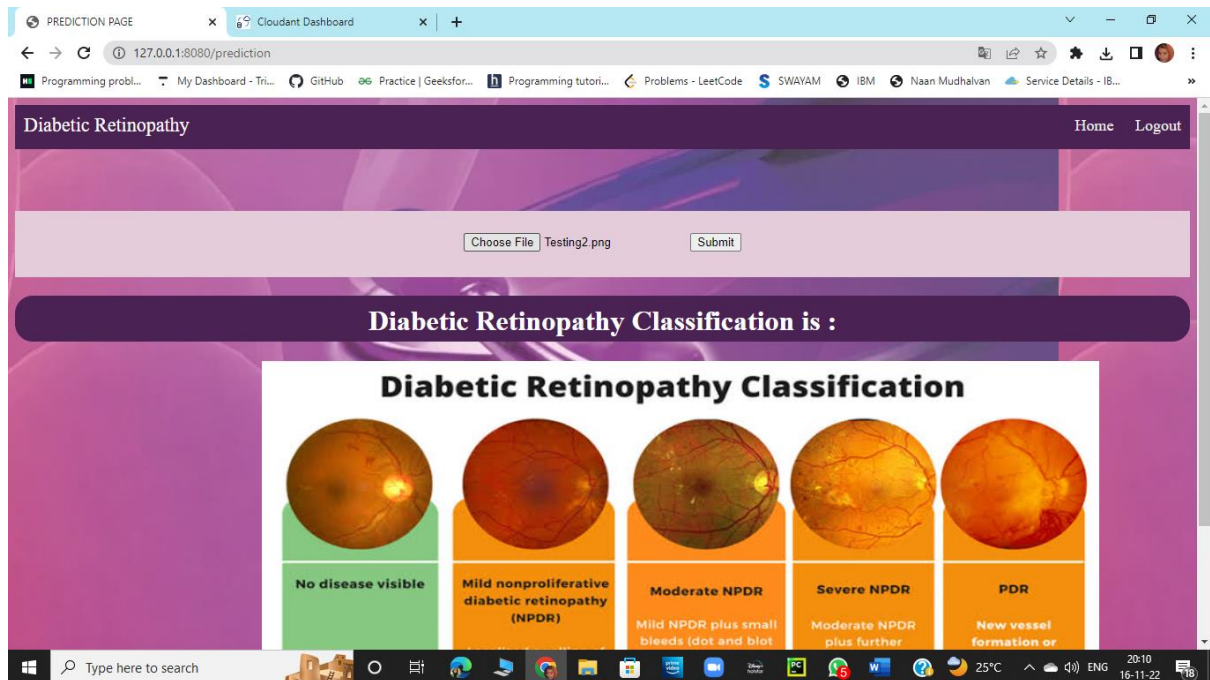


## PREDICTION:

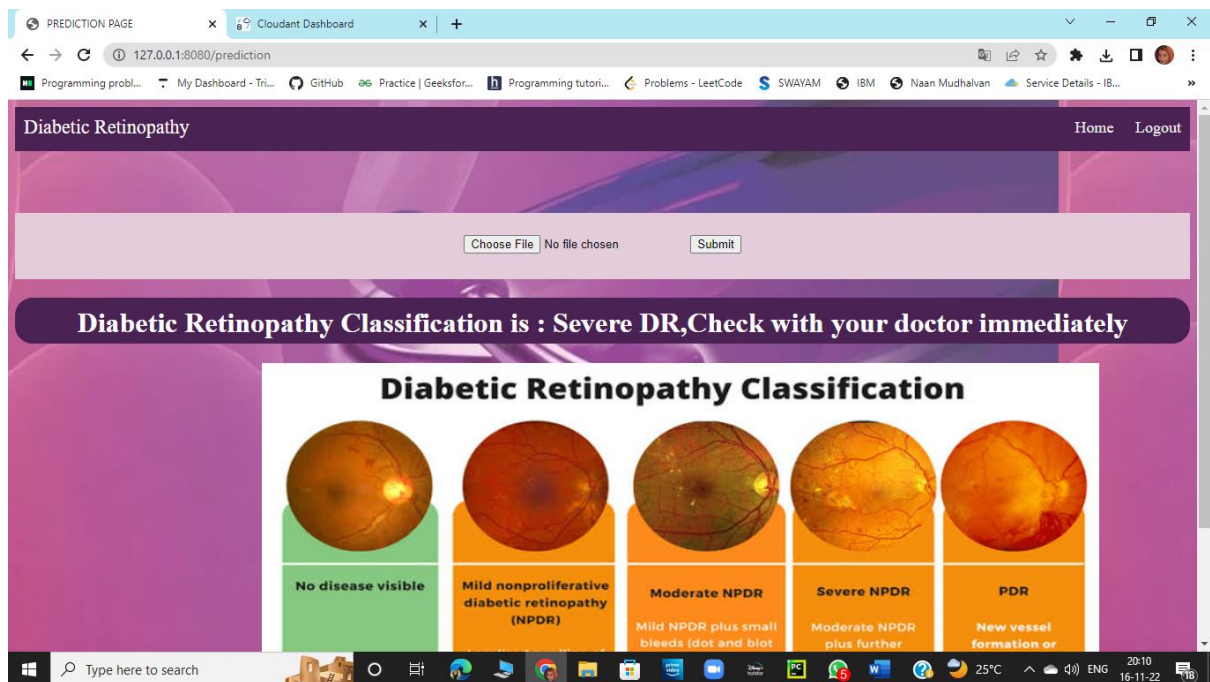
1. Upload the image the user wants to test using the choose file option.
2. Then click on the submit option.



3. Image is loaded.

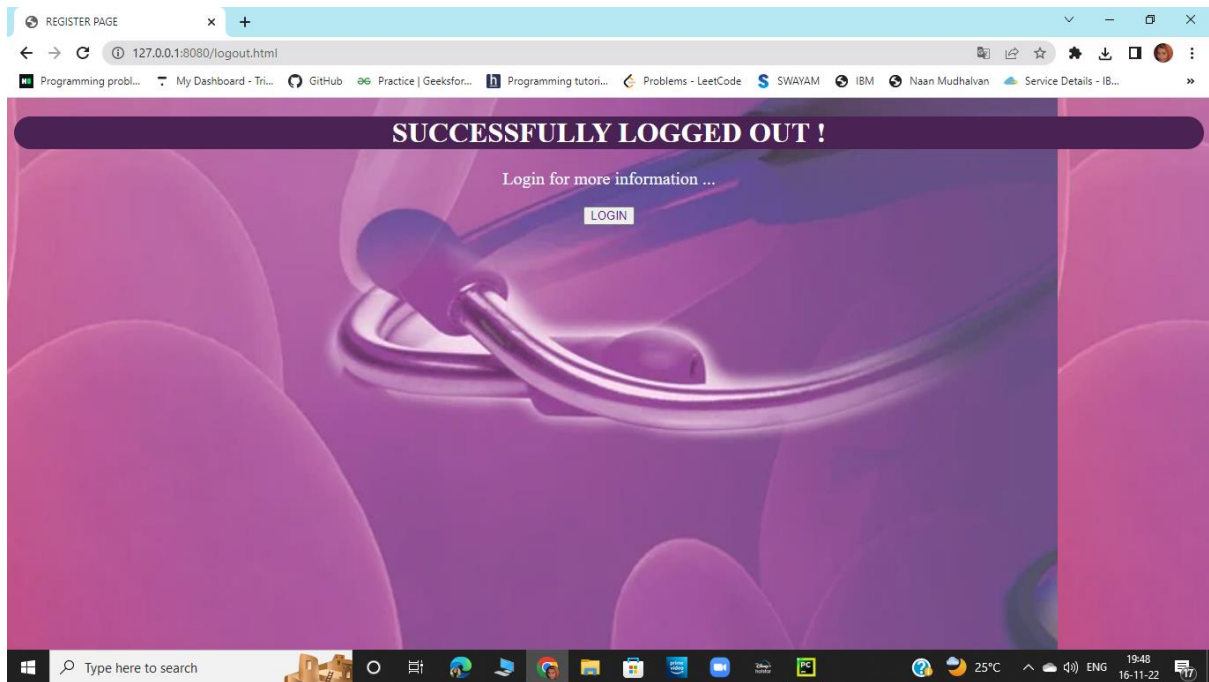


PREDICTION DISPLAY:

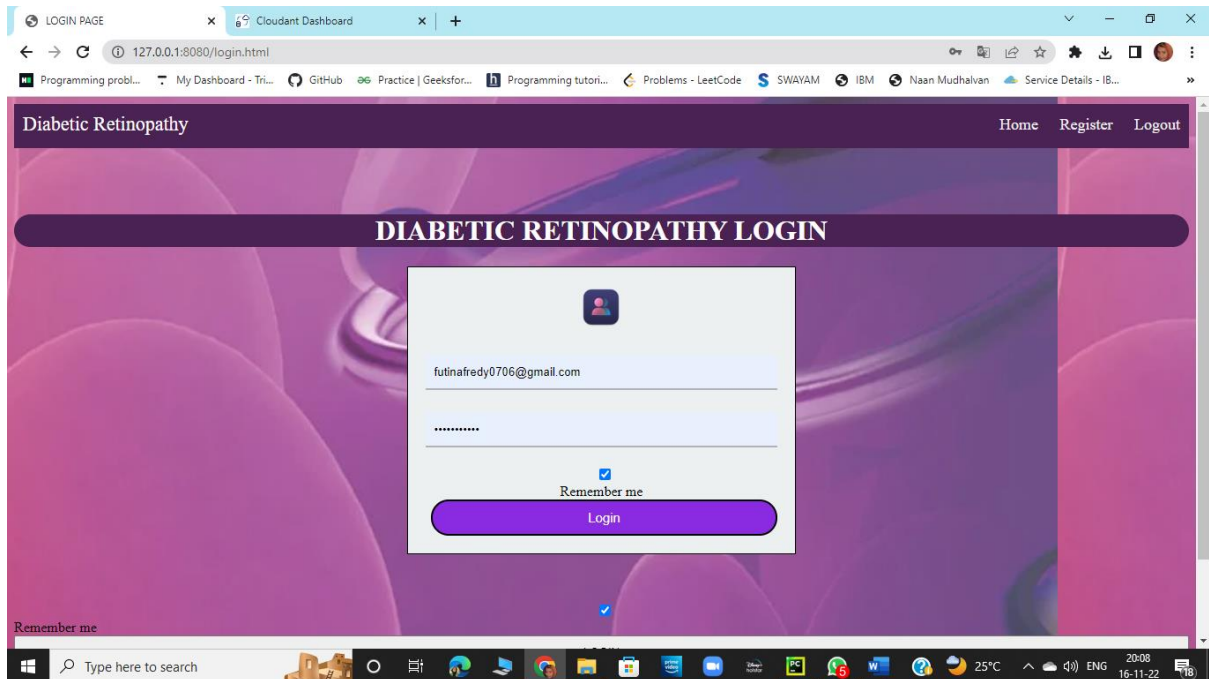




## LOGOUT:



## LOGIN IF NEEDED:



# IBM CLOUD DEPLOYMENT:

REGISTER PAGE x IBMId - Sign in or create an IBMId: x +

login.ibm.com/authtvc/mtfm/sps/authsvc?PolicyId=urn:ibm:security:authentication:asf:basicdapuser&Target=https%3A%2F%2Flogin.ibm.com%2F...

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# DATABASE:

REGISTER PAGE x Cloudant Dashboard x +




947534e7-5837-41fa-b216-7aaace1a2275-bluemix.cloudant.com/dashboard.html

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**Databases**

Database name Create Database {} JSON

**Your Databases**

Name	Size	# of Docs	Partitioned	Actions
my_database	0.8 KB	16	No	  

Log Out

Showing 1-1 of 1 databases. Databases per page 20

# USER DATABASE STORAGE:

PREDICTION PAGE x Cloudant Dashboard x +

947534e7-5837-41fa-b216-7aaace1a2275-bluemix.cloudant.com/dashboard.html#database/my\_database/\_all\_docs

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my\_database Document ID Options {} JSON

All Documents +

Query

Permissions

Changes

Design Documents +

Log Out

_id	name	paw
4f3a3c73a2ccbc369bd2ce98278bef...	test_user2	test@123
4f3a3c73a2ccbc369bd2ce9827ef73...	test_user3	test@123
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abi@gmail.com	Abi	dhth
futinafredy0706@gmail.com	Jerolin Futina	Futinafredy
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kaviyaprabha@gmail.com	Kaviya Prabha	kaviay
priyashanmuga@gmail.com	Shanmuga Priya	priya
yazhinis@gmail.com	Yazhini	yazhini

Showing 3 of 5 columns. Show all columns. Showing document 1 - 12. Documents per page: 20

Type here to search

25°C 19:55 16-11-22