SPRINT 4 Project
Deliverables (Flask Code & Deployment)

Team ID	PNT202022TMID00111
Project Name	Efficient Water Quality Analysis & Prediction using Machine Learning

App.py:

app.py | Water_quality.ipynb | home.html 2 | water_potability.csv

app.py > Python > hello

```python
from flask import Flask, request, render_template
import pickle
import pandas as pd
import numpy as np
import joblib
scaler = joblib.load("my_scaler.save")


app = Flask(__name__)
model = pickle.load(open('model.pkl', 'rb'))

@app.route("/home")
@app.route("/")
def hello():
    return render_template("home.html")

@app.route("/predict", methods = ["GET", "POST"])
def predict():
    if request.method == "POST":
        input_features = [float(x) for x in request.form.values()]
        features_value = [np.array(input_features)]

        feature_names = ["ph", "Hardness" , "Solids", "Chloramines", "Sulfate",
                         "Conductivity", "Organic_carbon","Trihalomethanes", "Turbidity"]

        df = pd.DataFrame(features_value, columns = feature_names)
        df = scaler.transform(df)
        output = model.predict(df)

        if output[0] == 1:
            prediction = "safe"
        else:
            prediction = "not safe"
```

The flask file (app.py) which we have used as a framework which will present (home.html) file to user and model.pkl file to use the trained model to predict whether *the water is safe for consump1on or not*

```python
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def predict():
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        df = pd.DataFrame(features_value, columns = feature_names)
        df = scaler.transform(df)
        output = model.predict(df)

        if output[0] == 1:
            prediction = "safe"
        else:
            prediction = "not safe"


        return render_template('home.html', prediction_text= "water is {} for human consumption ".format(prediction))



if __name__ == "__main__":
    app.run(debug=True)
```
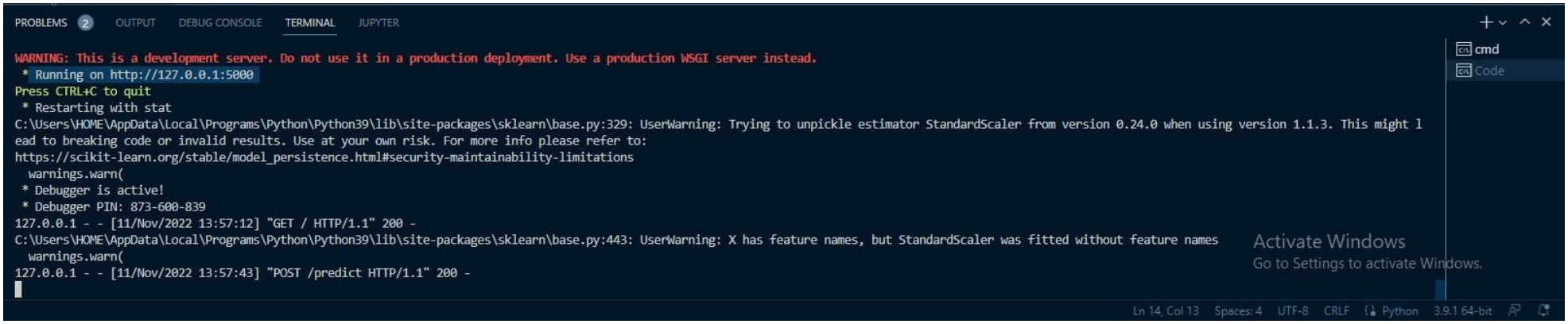
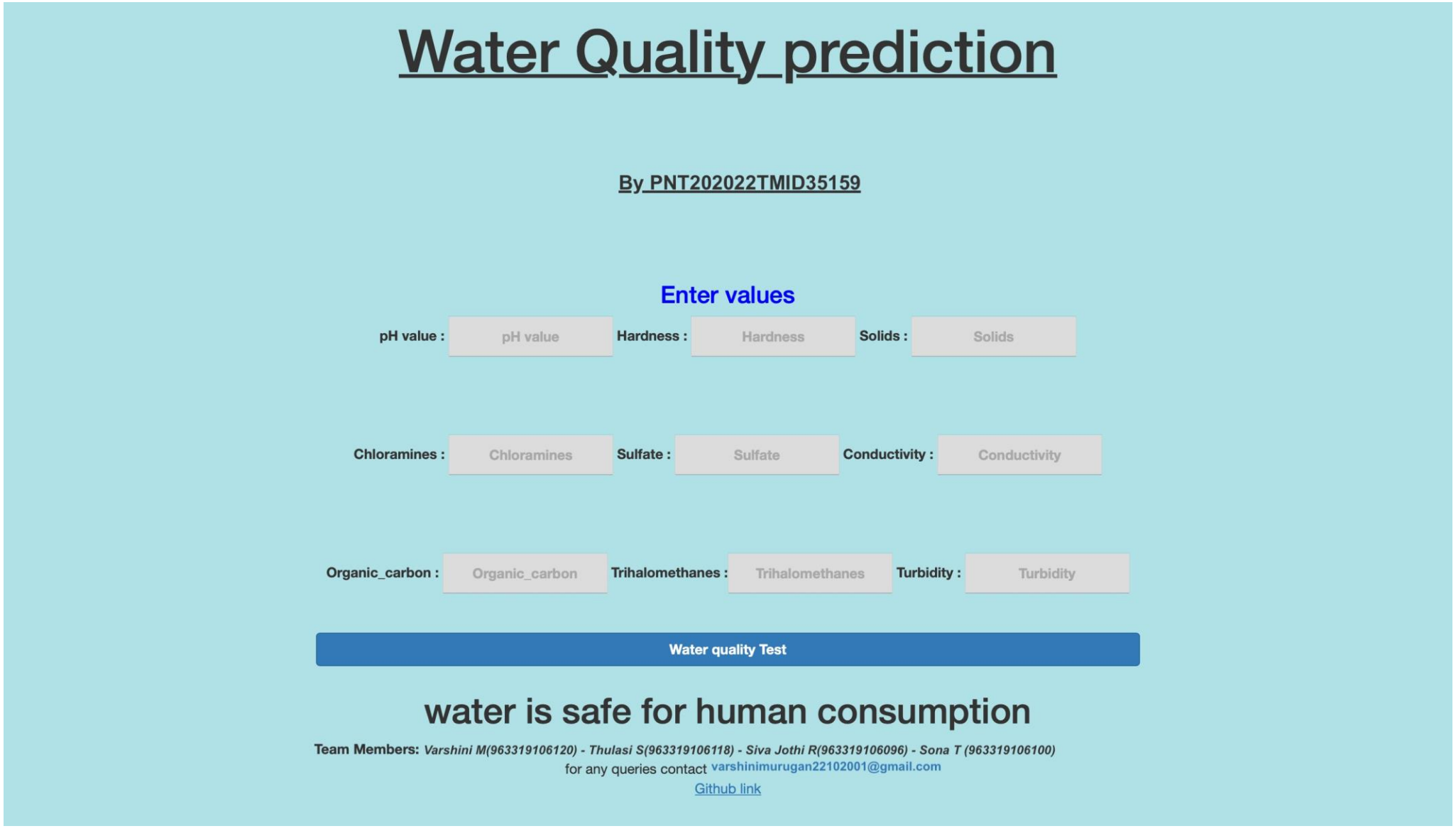
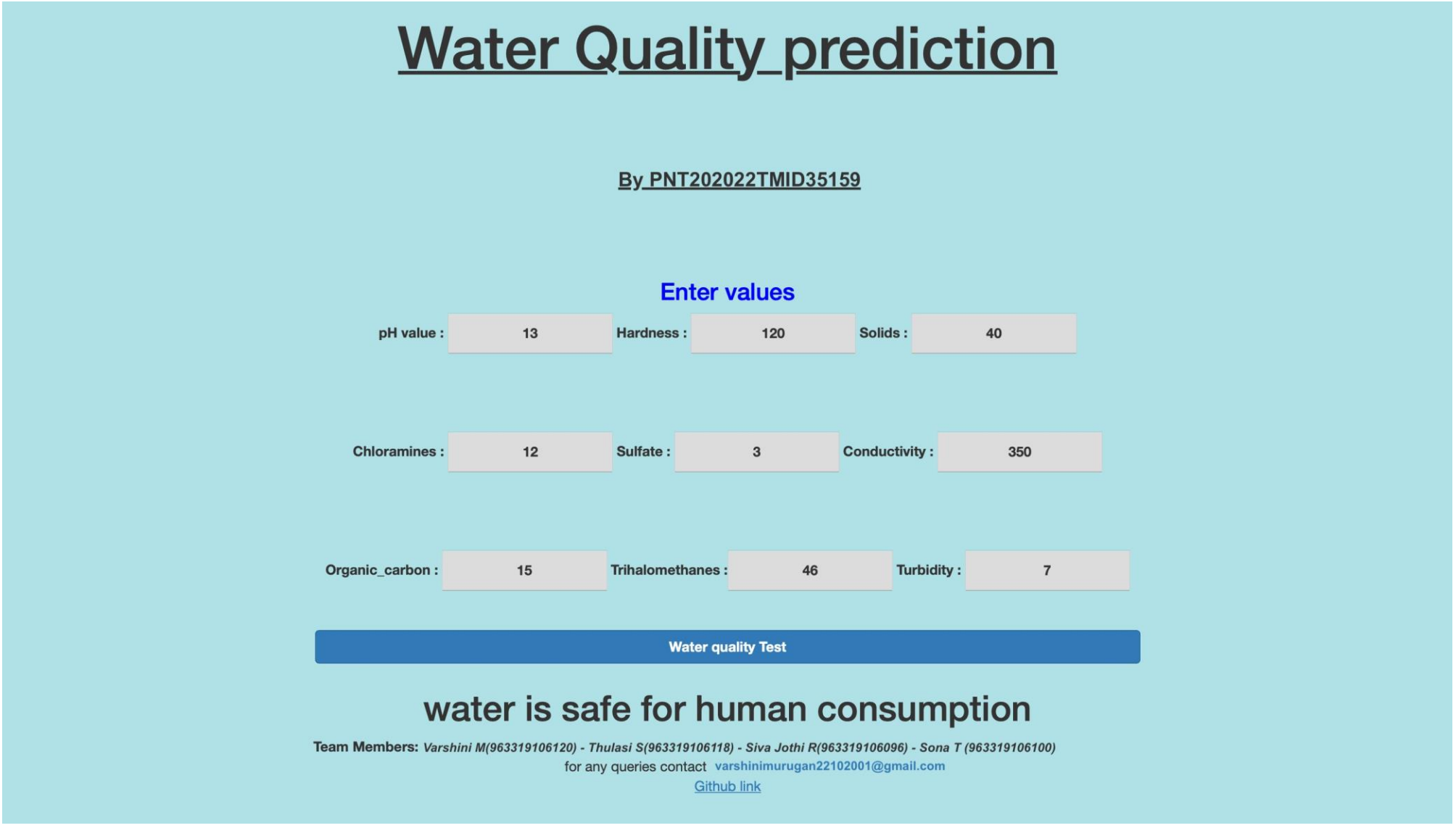

To run our ML model, we have to run **app.py** model where it gives a port number in terminal. We have to copy and paste that link in our browser to use the predicCon model


PROBLEMS 2
OUTPUT
DEBUG CONSOLE
TERMINAL
JUPYTER
cmd
Code
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
C:\Users\HOME\AppData\Local\Programs\Python\Python39\lib\site-packages\sklearn\base.py:329: UserWarning: Trying to unpickle estimator StandardScaler from version 0.24.0 when using version 1.1.3. 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: 873-600-839
127.0.0.1 - - [11/Nov/2022 13:57:12] "GET / HTTP/1.1" 200 -
C:\Users\HOME\AppData\Local\Programs\Python\Python39\lib\site-packages\sklearn\base.py:443: UserWarning: X has feature names, but StandardScaler was fitted without feature names
warnings.warn(
127.0.0.1 - - [11/Nov/2022 13:57:43] "POST /predict HTTP/1.1" 200 -
Activate Windows
Go to Settings to activate Windows.
Ln 14, Col 13
Spaces: 4
UTF-8
CRLF
Python
3.9.1 64-bit

OUTPUT:


Water Quality prediction
By PNT202022TMID35159
Enter values
pH value :
pH value
Hardness :
Hardness
Solids :
Solids
Chloramines :
Chloramines
Sulfate :
Sulfate
Conductivity :
Conductivity
Organic_carbon :
Organic_carbon
Trihalomethanes :
Trihalomethanes
Turbidity :
Turbidity
Water quality Test
water is safe for human consumption
Team Members: Varshini M(963319106120) - Thulasi S(963319106118) - Siva Jothi R(963319106096) - Sona T (963319106100)
for any queries contact varshinimurugan22102001@gmail.com
Github link

Test case 1 : (water is safe for human consumpMon)



Test case 2: (water is not safe for human consumpMon)

Water Quality prediction

By PNT202022TMID35159

Enter values

pH value :	1	Hardness :	400	Solids :	3
Chloramines :	10	Sulfate :	10	Conductivity :	800
Organic_carbon :	5	Trihalomethanes :	120	Turbidity :	4

Water quality Test

water is not safe for human consumption

Team Members: *Varshini M(963319106120) - Thulasi S(963319106118) - Siva Jothi R(963319106096) - Sona T (963319106100)*

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