SPRINT 4
Project Deliverables (Flask Code & Deployment)

Team ID	PNT2022TMID28413
Project Name	Efficient Water Quality Analysis & Prediction using Machine Learning

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"
```

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        df = pd.DataFrame(features_value, columns = feature_names)
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        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)
```

Water Quality prediction

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 Quality prediction

Enter values

pH value : 8 Hardness : 323 Solids : 2240

Chloramines : 13 Sulfate : 1 Conductivity : 353

Organic_carbon : 18 Trihalomethanes : 56 Turbidity : 6

Water quality Test

water is safe for human consumption

Water Quality prediction

Enter values

pH value : 1 Hardness : 323 Solids : 2

Chloramines : 8 Sulfate : 5 Conductivity : 753

Organic_carbon : 4 Trihalomethanes : 100 Turbidity : 4

Water quality Test

water is not safe for human consumption