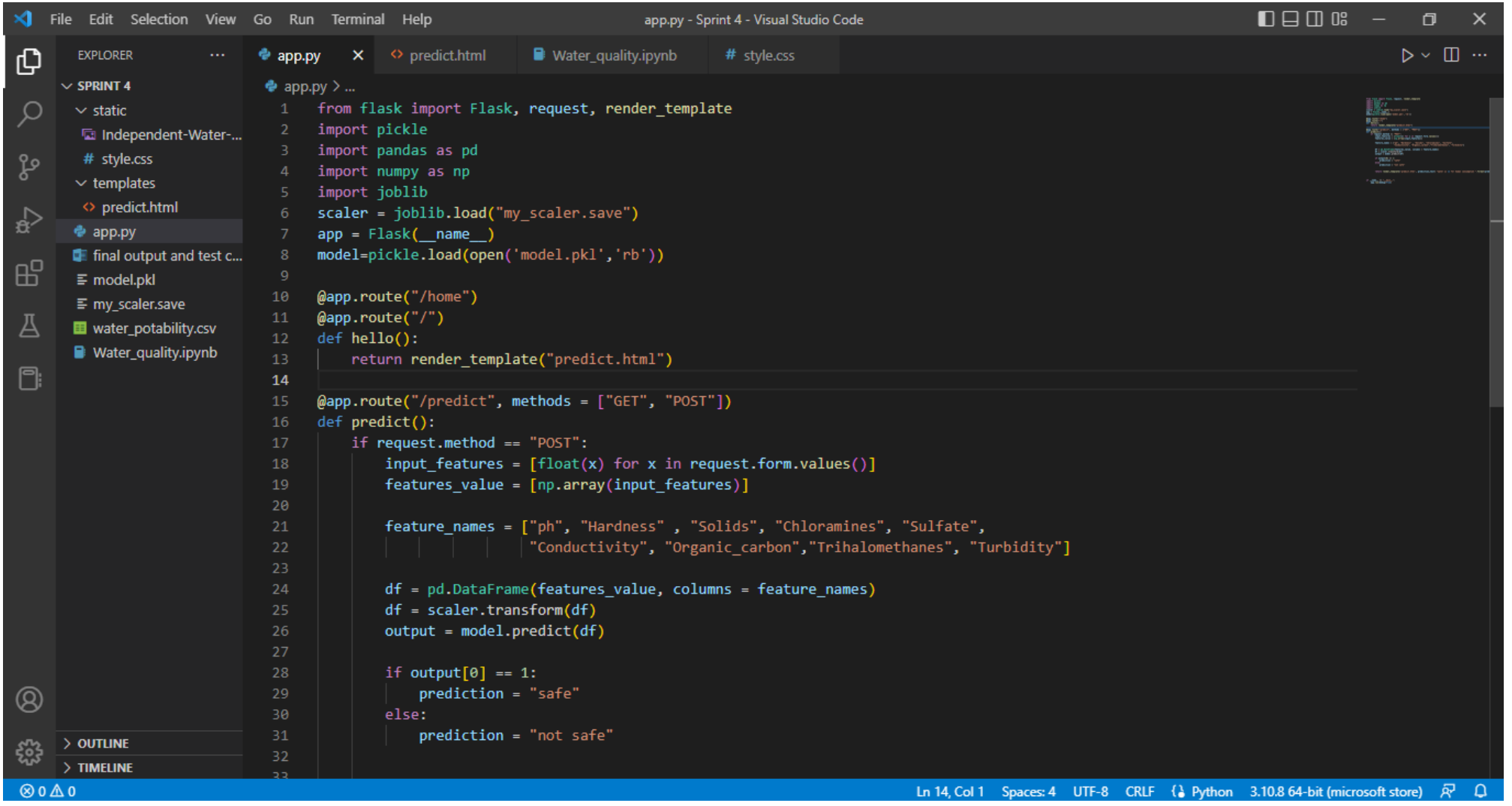
SPRINT 4

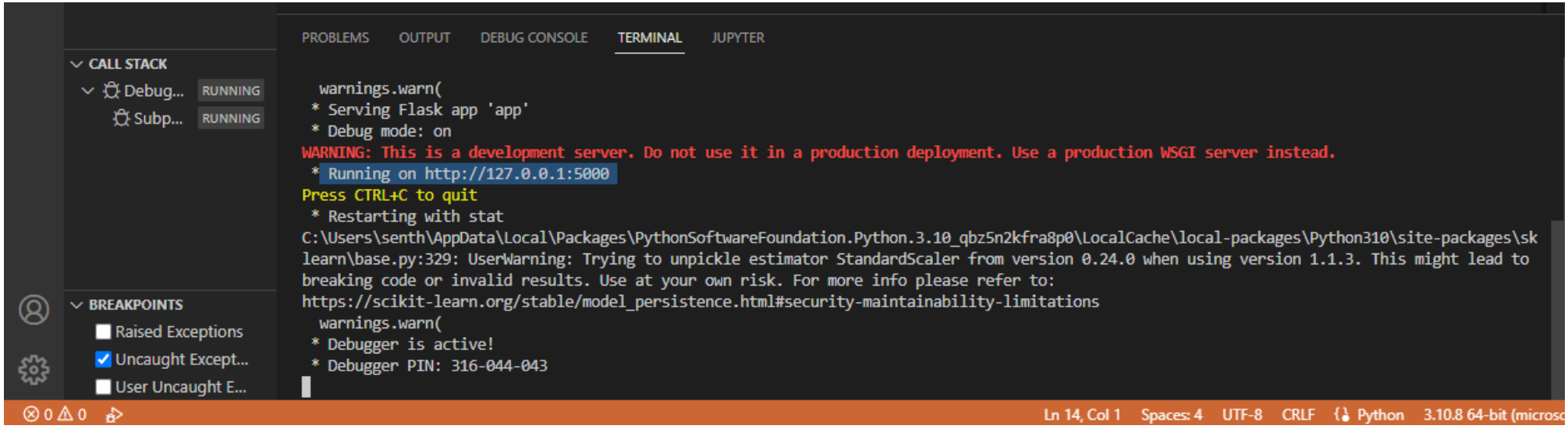
Project Deliverables (Flask Code & Deployment)

Team ID	PNT2022TMID53347
Project Name	Efficient Water Quality Analysis & Prediction using Machine Learning

App.py:

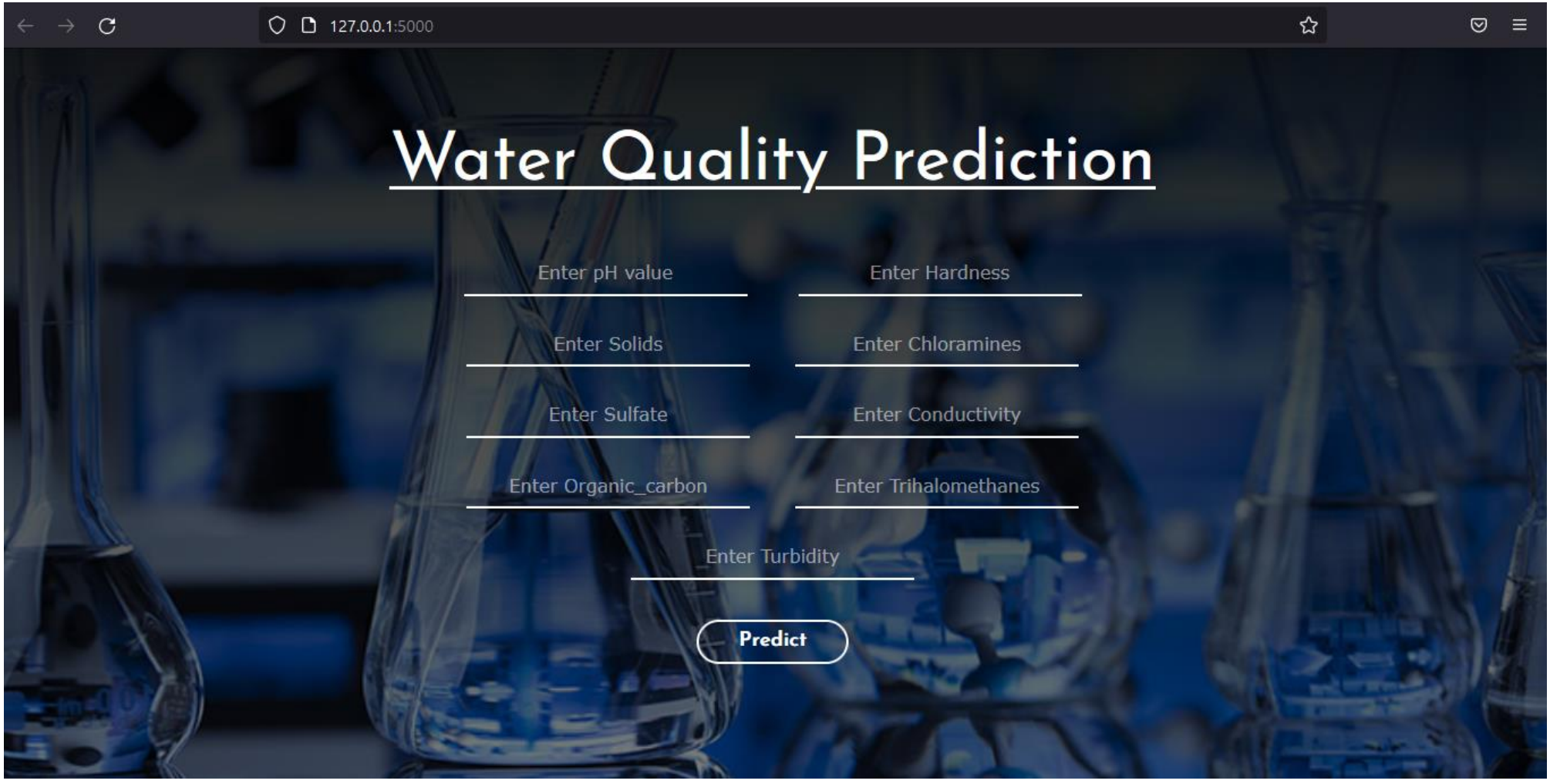

File Edit Selection View Go Run Terminal Help
app.py - Sprint 4 - Visual Studio Code
EXPLORER
SPRINT 4
static
Independent-Water-...
style.css
templates
predict.html
app.py
final output and test c...
model.pkl
my_scaler.save
water_potability.csv
Water_quality.ipynb
OUTLINE
TIMELINE
app.py
predict.html
Water_quality.ipynb
style.css
app.py > ...
1 from flask import Flask, request, render_template
2 import pickle
3 import pandas as pd
4 import numpy as np
5 import joblib
6 scaler = joblib.load("my_scaler.save")
7 app = Flask(__name__)
8 model=pickle.load(open('model.pkl','rb'))
9
10 @app.route("/home")
11 @app.route("/")
12 def hello():
13 return render_template("predict.html")
14
15 @app.route("/predict", methods = ["GET", "POST"])
16 def predict():
17 if request.method == "POST":
18 input_features = [float(x) for x in request.form.values()]
19 features_value = [np.array(input_features)]
20
21 feature_names = ["ph", "Hardness" , "Solids", "Chloramines", "Sulfate",
22 "Conductivity", "Organic_carbon","Trihalomethanes", "Turbidity"]
23
24 df = pd.DataFrame(features_value, columns = feature_names)
25 df = scaler.transform(df)
26 output = model.predict(df)
27
28 if output[0] == 1:
29 prediction = "safe"
30 else:
31 prediction = "not safe"
32
33
⊗ 0 ⚠ 0
Ln 14, Col 1 Spaces: 4 UTF-8 CRLF Python 3.10.8 64-bit (microsoft store)

To run our ML model, we have to run **app.py** model where it generates a localhost in terminal. We have to copy and paste that link in our browser to use the prediction model

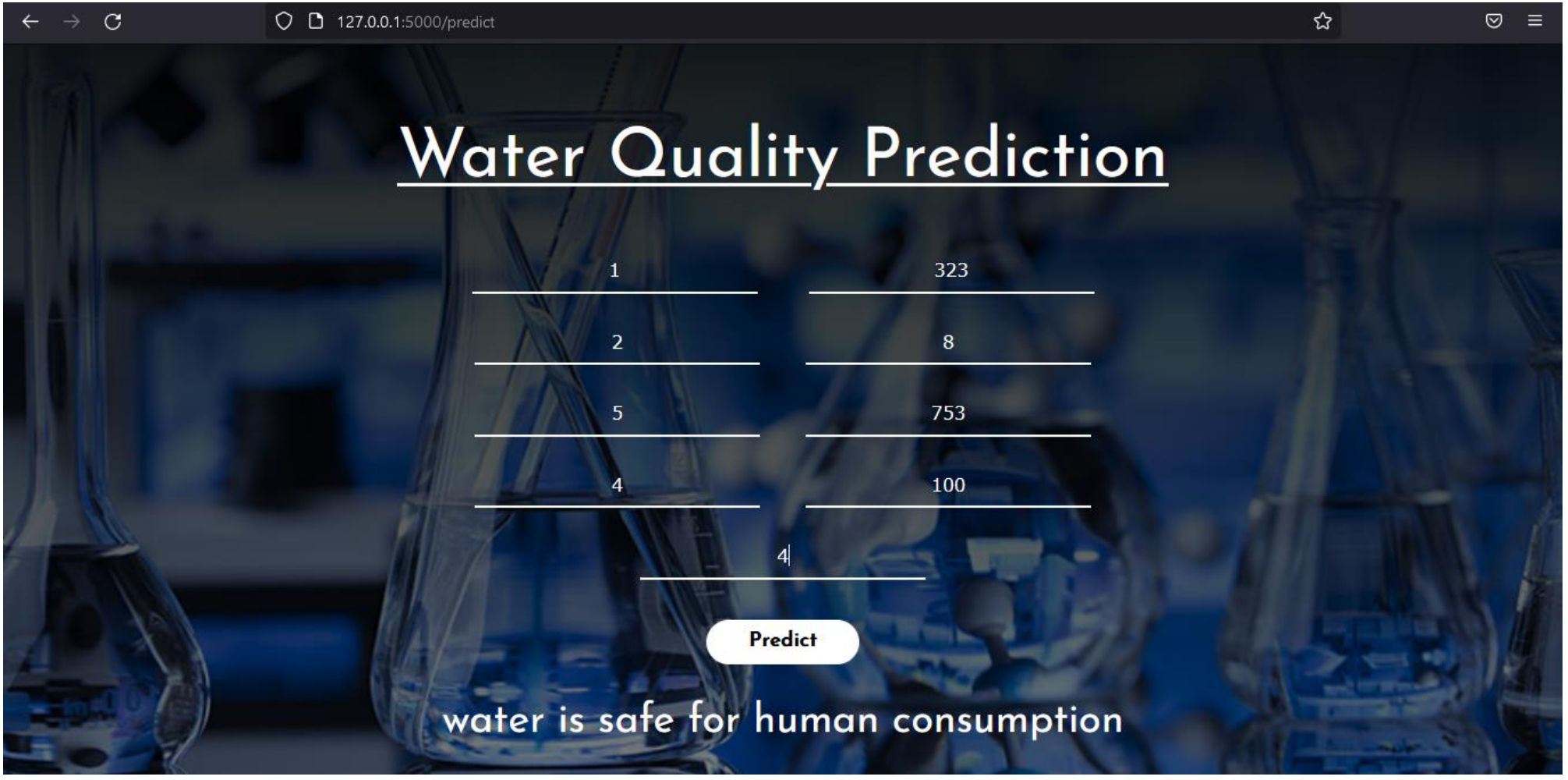


In our case, it is running on http://127.0.0.1:5000 (the default port number for flask is 5000)

OUTPUT:


127.0.0.1:5000
Water Quality Prediction
Enter pH value
Enter Hardness
Enter Solids
Enter Chloramines
Enter Sulfate
Enter Conductivity
Enter Organic_carbon
Enter Trihalomethanes
Enter Turbidity
Predict

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



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