FLASK DEPLOYMENT ASSIGNMENT

App Name: Predictor Loan
Version: 1.0
Creator: Sebastian Bucheli
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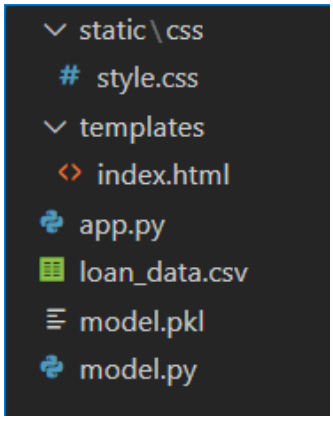
Submitted to: Data Glacier

1. Files for the deployment



2. Model serialization

model.py > ...

```python
import pandas as pd
import numpy as np
import pickle
from sklearn.model_selection import train_test_split
from sklearn.ensemble import RandomForestClassifier
from sklearn.metrics import mean_absolute_error, accuracy_score


df = pd.read_csv('loan_data.csv')
colnames = df.columns.tolist()
predictors = colnames[:-1]
target = colnames[-1]
X = df[predictors]
y = df[target]
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.25, random_state=0)
model = RandomForestClassifier(n_estimators=10 ,random_state=0)
model.fit(X_train, y_train)
preds = model.predict(X_test)

with open('model.pkl', 'wb') as f:
    pickle.dump(model, f)
    print('Model has been serialized')
```

3. App code (app.py)

app.py

```python
from django.shortcuts import render
import numpy as np
import pickle
from flask import Flask, request, render_template


app = Flask(__name__)
with open('model.pkl', 'rb') as f:
    model = pickle.load(f)

@app.route('/')
def home():
    return render_template('index.html')

@app.route('/predict', methods=['POST'])
def predict():
    """
    Predict with the data entered in the html page.
    """
    int_features = [int(x) for x in request.form.values()]
    final_features= [np.array(int_features)]
    prediction = model.predict(final_features)

    if round(prediction[0]) == 0:
        return render_template("index.html", prediction_text="The user will pay the debt")
    else:
        return render_template("index.html", prediction_text="The user won't pay the debt")

if __name__ == "__main__":
    app.run(port=5000, debug=True)
```

4. Running the app in the localhost

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  JUPYTER

Windows PowerShell
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PS [redacted]\DATA_GLACIER\assignments\week4> python .\app.py
 * 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
 * Debugger is active!
 * Debugger PIN: 621-146-771
127.0.0.1 - - [28/Oct/2022 22:02:59] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [28/Oct/2022 22:02:59] "GET /static/css/style.css HTTP/1.1" 200 -
```
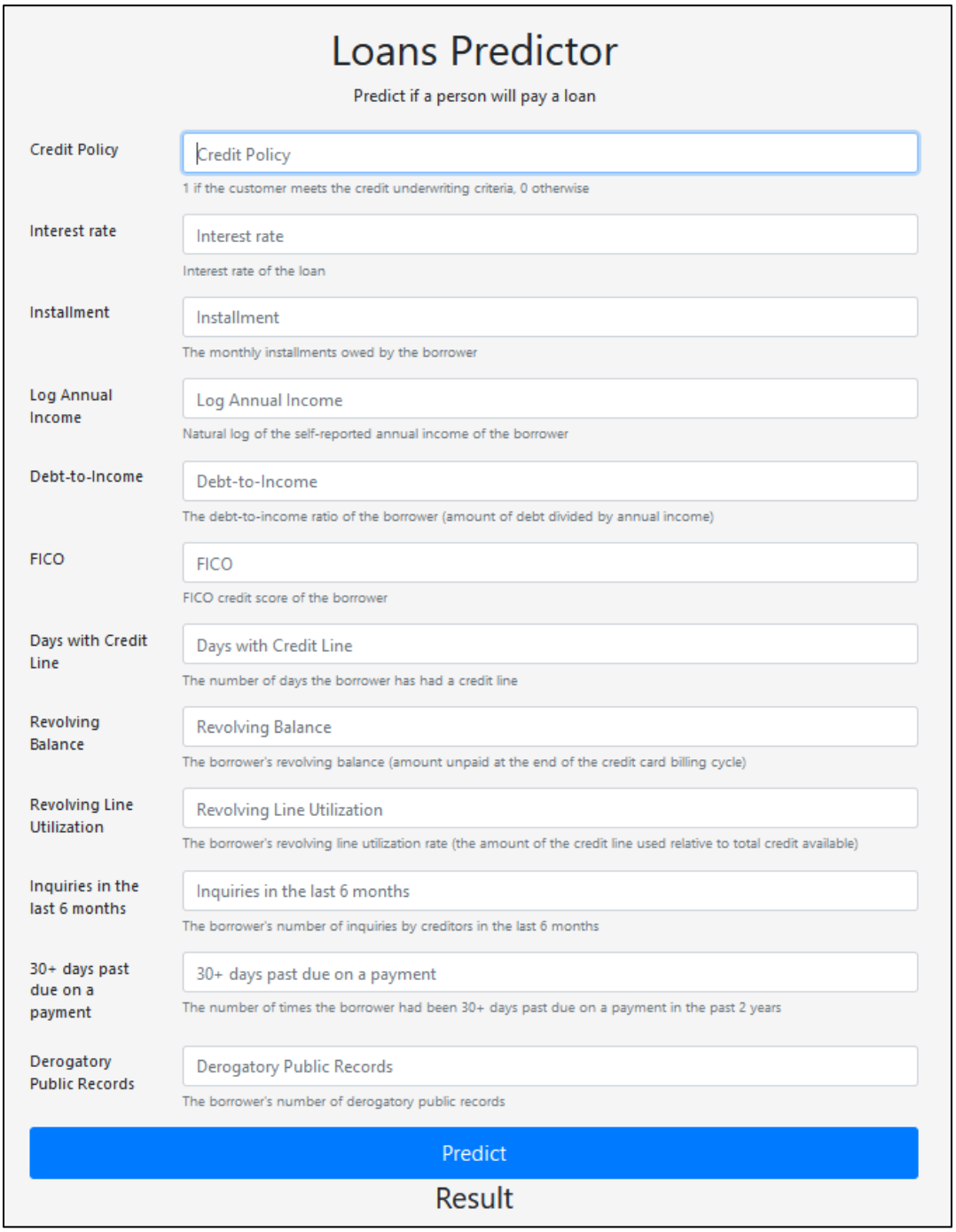

5. App in the browser



6. Writing some data to test the app