NAME: ÖZGÜR ATEŞ
BATCH CODE: LISUM16
DATE: 01/05/2022
SUBMITTED TO: https://github.com/ozgurates/DataGlacierWeek5

MODEL TRAIN AND SAVE:

```
import pandas as pd
import pickle
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.metrics import confusion_matrix, accuracy_score

data = pd.read_csv('student-mat.csv', sep=";")

data = data[['studytime', 'failures', 'absences',
             'G1', 'G2', 'G3']]

data.dropna()

X = data.iloc[:, :-1].values
Y = data.iloc[:, -1].values

x_train, x_test, y_train, y_test = train_test_split(
    X, Y, test_size=0.1, random_state=1)

regressor = LinearRegression()
regressor.fit(x_train, y_train)

pred = regressor.predict(x_test)

#acc = regressor.score(x_test, y_test)
# print(acc)
# 84% accuracy rate in the model

with open("model.pickle", "wb") as f:
    pickle.dump(regressor, f)
```

DEPLOY MODEL ON FLASK:

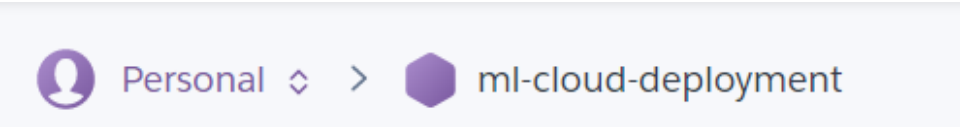
```python
from flask import Flask, render_template, request
import pandas as pd
import pickle

app = Flask(__name__)

p = open("model.pickle", "rb")
regressor = pickle.load(p)


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


@app.route('/predict', methods=['POST'])
def predict():
    studytime = request.form.get("studytime")
    failures = request.form.get("failures")
    abs = request.form.get("absence")
    G1 = request.form.get("G1")
    G2 = request.form.get("G2")
    features = [studytime, failures, abs, G1, G2]
    test_df = pd.DataFrame([features], columns=[
                            'studytime', 'failures', 'absence', 'G1', 'G2'])

    pred = regressor.predict(test_df)

    return render_template('index.html', pred=pred)


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

HTML:

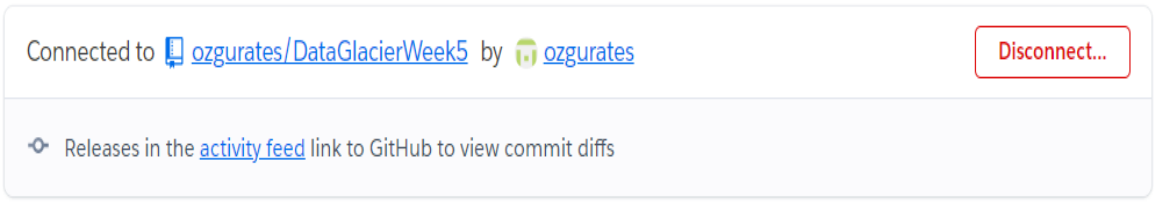
```html
<!DOCTYPE html>
<html>
    <head>
        <meta charset="utf-8" />
        <title>ModelDeploymentOnFlask</title>
        <link rel="stylesheet" href="{{ url_for('static', filename='style.css') }}">
    </head>
    <body>
        <div class="predict">
            <h1>Predict The Grade</h1>

            <div class = "class1">
            <form action="{{ url_for('predict')}}" class="form" method="post">

                <label for="studytime">Study Time</label>
                <input type="number" id="studytime" name="studytime" required="required">
                <label for="failures">Failures</label>
                <input type="number" id="failures" name="failures" required="required">
                <label for="absence">Number of Absence</label>
                <input type="number" id="absence" name="absence" required="required">
                <label for="Grade_one">First Grade</label>
                <input type="number" id="Grade_one" name = "G1" required="required">
                <label for="Grade_two">Second Grade</label>
                <input type="number" id="Grade_two" name = "G2" required="required">

                <button type="submit" class="btn">Predict Grade</button>
            </form>

            <div class="answer">{{pred}}</div>

            </div>
        </div>
    </body>
</html>
```

HEROKU:

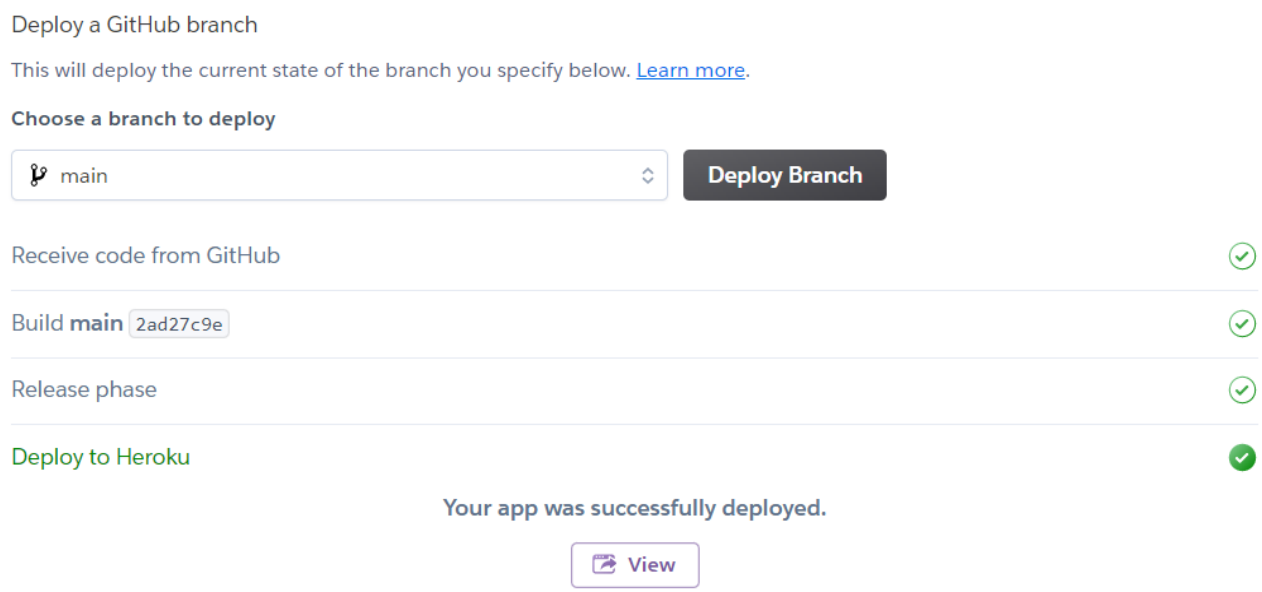
CREATE THE APP:



CONNECT THE REPOSITORY TO HEROKU:



COMPLETE THE DEPLOYMENT:



FINAL PRODUCT: