Introduction

The goal of this assignment is to create a machine learning model, and deploy it on Flask to make predictions via an HTTP interface. The document will be divided into two sections:

1. Model development
2. Deployment documentation, execution and deployment instructions.

Model

The model chosen for this assignment was LinearRegression. The objective of the model is to predict the sales of a company based on its investment in media (TV, radio, and newspaper). The R2 score of the model is 0.9, indicating that it is expected to provide accurate results. After completing the model, it was serialized and saved in the repository for future use.

```
model = LinearRegression(fit_intercept=True)

model.fit(Xtrain.values, ytrain)

y_train_pred = model.predict(Xtrain)
y_test_pred = model.predict(Xtest)

filename = "C:\\Users\\fcres\\OneDrive\\Documents\\DataGlacier\\advertising_flask\\model\\model.pkl"
pickle.dump(model, open(filename, "wb"))

loaded_model = pickle.load(open(filename, "rb"))
```

'model.pkl' (pickle extension) was saved on our repository 'model/model.pkl'

Documentation, Execution and Deployment

In the repository, you will find the following files:

The " data_set" folder contains the data we use to train the model.

The "main.py" script that contains the Flask constructor to run the application.

The "model" file that includes the machine learning model script ("model.py") and its pickle extension ("model.pkl").

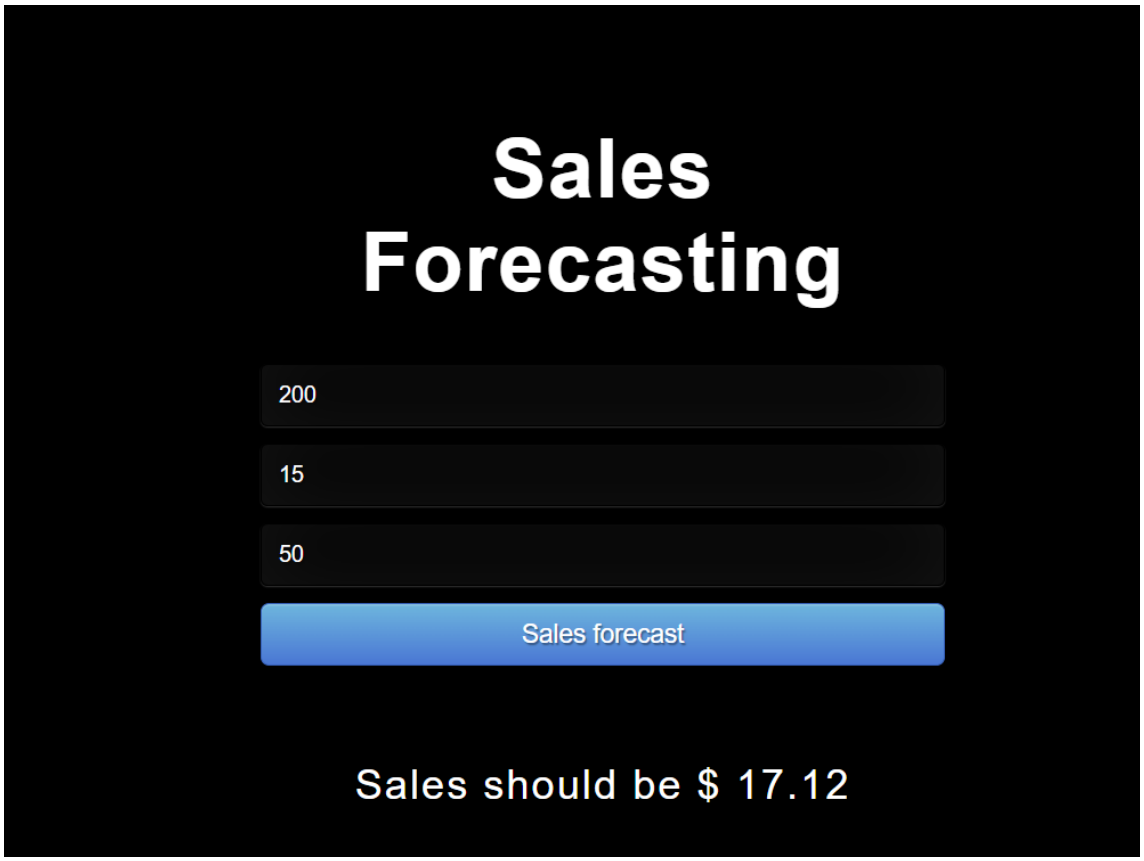
The "static" folder that includes CSS files.

The "templates" folder that includes HTML files.

To execute and deploy the model on Flask, the "main.py" script with the Flask constructor needs to be run.

```
 * Running on http://127.0.0.1:5000
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 492-932-351
```

After running the "main.py" script, the terminal will display a link to access the web interface of the application, which is typically http://127.0.0.1:5000/. The appearance of the web interface will be as described in the templates and static files provided in the repository.


Sales
Forecasting
200
15
50
Sales forecast
Sales should be $ 17.12