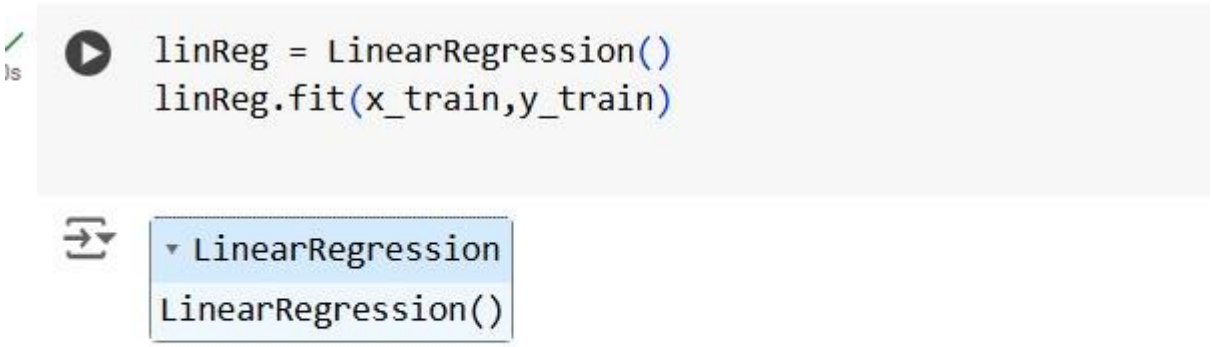
Model Development Phase

Date	06 July 2024
Team ID	739899
Project Title	SmartLender – Envisioning Success: Predicting University Scores With Machine Learning
Maximum Marks	4 Marks

Initial Model Training Code, Model Validation and Evaluation Report

The initial model training code will be showcased in the future through a screenshot. The model validation and evaluation report will include a summary and training and validation performance metrics for multiple models, presented through respective screenshots.

Initial Model Training Code :



```
linReg = LinearRegression()
linReg.fit(x_train,y_train)
```

```
LinearRegression
LinearRegression()
```

```
[38] y_pred = linReg.predict(x_test)
```

```
[40] lassoReg = linear_model.Lasso(alpha = 0.1)
     lassoReg.fit(x,y)
```

```
Lasso
Lasso(alpha=0.1)
```

```
[41] y_pred = lassoReg.predict(x_test)
```

```
[43] svr = SVR().fit(x,y)
```

```
[44]
     y_pred = svr.predict(x_test)
```

```
[46] dt = DecisionTreeRegressor(random_state = 0)
     dt.fit(x,y)
```

```
DecisionTreeRegressor
DecisionTreeRegressor(random_state=0)
```

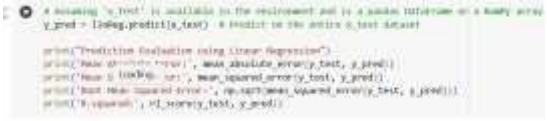
```
[47] y_pred = dt.predict(x_test)
```

```
[49] rf = RandomForestRegressor(n_estimators = 100 , random_state = 0)
     rf.fit(x,y)
```

```
RandomForestRegressor
RandomForestRegressor(random_state=0)
```

```
[50] y_pred = rf.predict(x_test)
```

Model Validation and Evaluation Report :

Model	Summary	Training and Validation Performance Metrics
Linear Regression		
Lasso Regression		
Support Vector Machine		

Decision Tree		

Random Forest