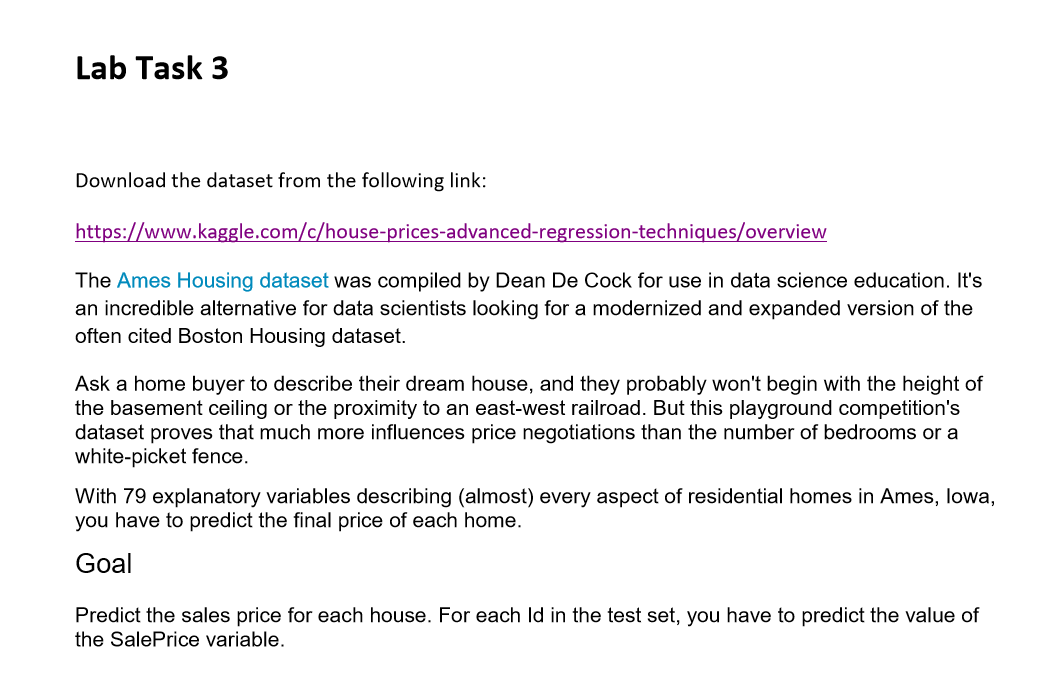
Artificial Intelligence with Python – LAB TASK 3

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Question:



Answer:

**from** typing **import** List  
**import** numpy **as** np  
**import** pandas **as** pd  
**from** sklearn.tree **import** DecisionTreeRegressor  
**from** sklearn.metrics **import** mean\_absolute\_error  
**from** sklearn.metrics **import** mean\_squared\_log\_error  
**import** matplotlib.pyplot **as** plt  
  
*#READ CSV FILE*train\_file = **r'C:\Users\karti\Desktop\Fall Semester 2019-20\Artificial Intelligence with Python\Lab\task3\train.csv'**data = pd.read\_csv(train\_file)  
summary = data.describe()  
  
*#SELECT THE FEATURES, DEFINE MODEL*y = data.SalePrice  
data\_features = [x **for** x **in** data.columns **if** str(data[x][0]).isdigit()][:-1]  
X = data[data\_features]  
describe = X.describe()  
head = X.head()  
  
*#FIT MODEL*data\_model = DecisionTreeRegressor(random\_state=1)  
data\_model.fit(X, y)  
X = np.array(X)  
  
*#PREDICTION*test\_file = **r'C:\Users\karti\Desktop\Fall Semester 2019-20\Artificial Intelligence with Python\Lab\task3\test.csv'**test\_data = pd.read\_csv(test\_file)  
X\_test = test\_data[data\_features]  
X\_test = pd.DataFrame(X\_test).fillna(X\_test.mean())  
print(X\_test)  
result = data\_model.predict(X\_test)  
print(result)  
  
*# %%*submission\_file = **r'C:\Users\karti\Desktop\Fall Semester 2019-20\Artificial Intelligence with Python\Lab\task3\submission.csv'**submission\_data = pd.read\_csv(submission\_file)  
  
*# ROOT MEAN SQUARE ERROR & ROOT MEAN SQUARE LOG ERROR*print(**'RMSE is: '**, (mean\_absolute\_error(submission\_data[**'SalePrice'**], result)) \*\* 0.5)  
print(**'RMSLE is: '**, (mean\_squared\_log\_error(submission\_data[**'SalePrice'**], result)) \*\* 0.5)

