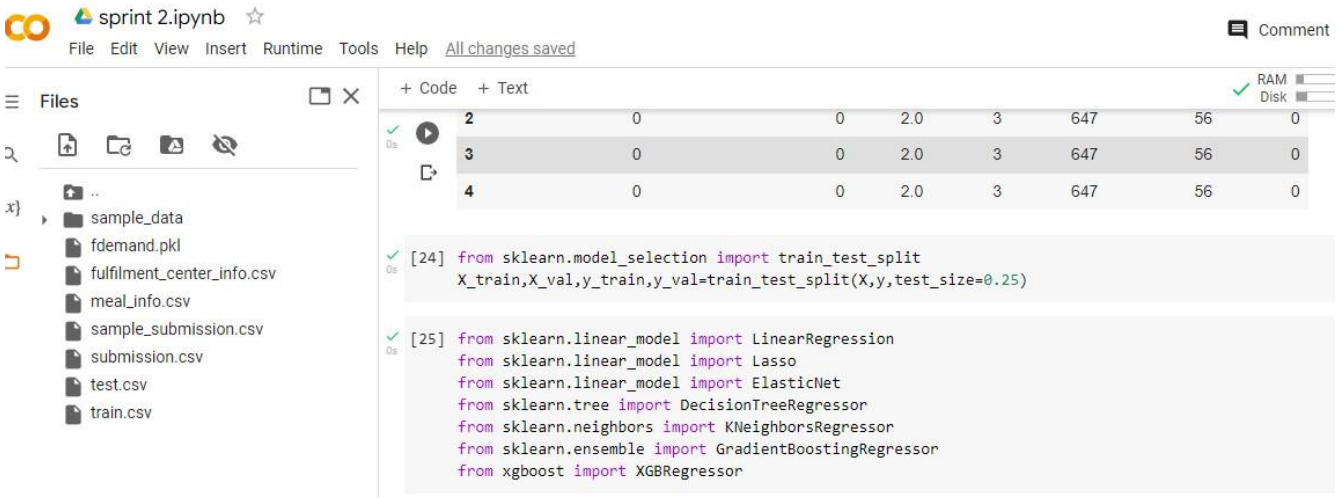
Model Building

Team id	PNT2022TMID23900
Project name	DemandEst - AI powered Food Demand Forecaster

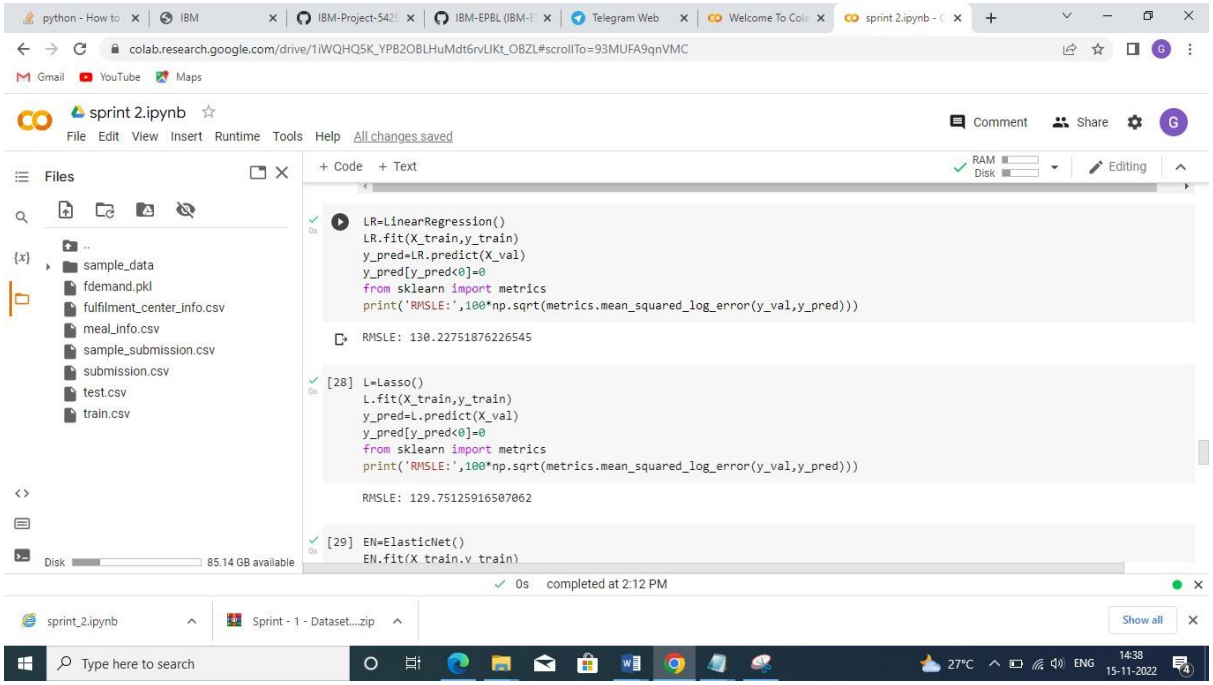
Train And Test Model Algorithms:

There are several Machine learning algorithms to be used depending on the data you are going to process such as images, sound, text, and numerical values. The algorithms that you can choose according to the objective that you might have it may be Classification algorithms or Regression algorithms.

1. Linear Regression.
2. Lasso Regression.
3. ELasticNet Regression / Classification.
4. Decision Tree Regression / Classification.



Model Evaluation :



Save The Model:

```
[ ] import pickle
    pickle.dump(DT,open('fdemand.pkl','wb'))
```

```
[ ] testfinal=pd.merge(test,meal_info,on="meal_id",how="outer")
    testfinal=pd.merge(testfinal,center_info,on="center_id",how="outer
    testfinal=testfinal.drop(['meal_id','center_id'],axis=1)

    tcols=testfinal.columns.tolist()
    tcols=tcols[:2]+tcols[8:]+tcols[6:8]+tcols[2:6]
    testfinal=testfinal[tcols]
```

Predicting The Output Using The Model:

```
[ ] testfinal=pd.merge(test,meal_info,on="meal_id",how="outer")
    testfinal=pd.merge(testfinal,center_info,on="center_id",how="outer")
    testfinal=testfinal.drop(['meal_id','center_id'],axis=1)

    tcols=testfinal.columns.tolist()
    tcols=tcols[:2]+tcols[8:]+tcols[6:8]+tcols[2:6]
    testfinal=testfinal[tcols]

    lb1=LabelEncoder()
    testfinal['center_type']=lb1.fit_transform(testfinal['center_type'])

    lb2=LabelEncoder()
    testfinal['category']=lb1.fit_transform(testfinal['category'])

    lb3=LabelEncoder()
    testfinal['cuisine']=lb1.fit_transform(testfinal['cuisine'])

    X_test=testfinal[features].values
```