Project Development Phase
Model Performance Test

Date	25 NOVEMBER 2022
Team ID	PNT2022TMID39594
Project Name	Demand EST-AI Powered Food Demand Forecaster
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot
1.	Metrics	**Regression Model:** Train Score: 0.7292322475870614 Test Score: 0.7031119606631332 R2 Score: 0.7031119606631332 RMSE: 0.6261338869915671	Screenshot 1
2.	Tune the Model	Hyperparameter Tuning - Nil Validation Method – Split Data Validation	Screenshot 2

Screenshot 1:

4	-0.976914	-1.078392	-0.488425	-0.595220	13918	1003563	5		0	0	6.86

In [62]:
```
train=datay[datay['week'].isin(range(1,136))]
test=datay[datay['week'].isin(range(136,146))]


X_train=train.drop(['id','num_orders','week','discount amount','city_code'],axis=1)
y_train=train['num_orders']

X_test=test.drop(['id','num_orders','week','discount amount','city_code'],axis=1)
y_test=test['num_orders']

reg = LinearRegression()
reg.fit(X_train,y_train)
print('Train Score :',reg.score(X_train,y_train))
print('Test Score :',reg.score(X_test,y_test))

y_pred = reg.predict(X_test)
print('R squared :',(r2_score(y_test,y_pred)))
print('RMSLE :',np.sqrt(mean_squared_error(y_test,y_pred)))
```

```
Train Score : 0.7292322475870614
Test Score : 0.7031119606631332
R squared : 0.7031119606631332
RMSLE : 0.6261338869915671
```

Screenshot 2:

Train Test Split

In [23]:
```
train=data[data['week'].isin(range(1,146))]
test=data[data['week'].isin(range(146,156))]
print("The Shape of Train dataset :",train.shape)
print("The Shape of Test dataset :",test.shape)
```

```
The Shape of Train dataset : (456548, 19)
The Shape of Test dataset : (32573, 19)
```