

PHASE 3

PRODUCT DEMAND PREDICTION WITH MACHINE LEARNING

Dataset and its detail Explanation :

Store ID :

A store ID is a unique number or code assigned to a specific retail location or online store to distinguish it from other stores within the same company or network.

Base Price at Which Product Was Sold :

This is the initial or listed price of the product before any discounts, promotions, or additional charges. It's the standard price at which the product is typically sold when no promotions are in effect.

Total Price at Which Product Was Sold :

This is the price the total measurement or number of a particular item type. The total price is typically a net price, and any specific quantity discount applicable to the item type is applied at this stage, before being added to other line items or any applicable tax being applied

Product ID :

This is a unique identifier assigned to each product in a store or inventory system. It ensures that every product can be specifically identified and differentiated from all other products

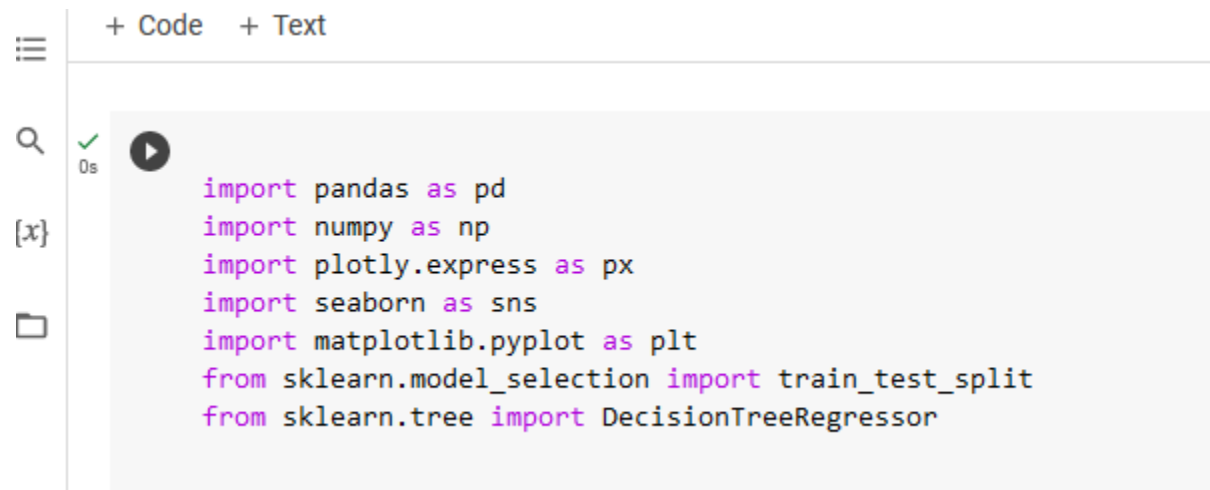
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Units Sold (Quantity Demanded) :

This refers to the number of individual units of a product that were sold during a specific period. A unit sales represent the total sales of a product in a given period. This sales information is used to determine the price point to achieve profit per unit given the actual cost of production.

Begin building the project by load the dataset :

Importing the packages:



```
+ Code + Text

import pandas as pd
import numpy as np
import plotly.express as px
import seaborn as sns
import matplotlib.pyplot as plt
from sklearn.model_selection import train_test_split
from sklearn.tree import DecisionTreeRegressor
```

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```
data = pd.read_csv("https://raw.githubusercontent.com/amankharwal/Website-data/master/demand.csv")  
data.head()
```

	ID	Store ID	Total Price	Base Price	Units Sold
0	1	8091	99.0375	111.8625	20
1	2	8091	99.0375	99.0375	28
2	3	8091	133.9500	133.9500	19
3	4	8091	133.9500	133.9500	44
4	5	8091	141.0750	141.0750	52

Preprocess Dataset :

Now lets have a look at whether this dataset contains any null values or not.

```
data.isnull().sum()
```

```
ID          0  
Store ID     0  
Total Price  1  
Base Price   0  
Units Sold   0  
dtype: int64
```