**Product Demand Prediction with Machine Learning phase-2**

A product company plans to offer discounts on its product during the upcoming holiday season. The company wants to find the price at which its product can be a better deal compared to its competitors. For this task, the company provided a dataset of past changes in sales based on price changes. You need to train a model that can predict the demand for the product in the market with different price segments

**Dataset Link:**[**https://www.kaggle.com/datasets/chakradharmattapalli/product-demand-prediction-with-machine-learning**](https://www.kaggle.com/datasets/chakradharmattapalli/product-demand-prediction-with-machine-learning)

The dataset that we have for this task contains data about:

1. the product id;
2. store id;
3. total price at which product was sold;
4. base price at which product was sold;
5. Units sold (quantity demanded);

The necessary Python libraries and the dataset we need for the task of product demand prediction:

* Pandas
* NumPy
* Plotly
* Seaborn
* Matplotlib
* Task of training a machine learning model to predict the demand for the product at different prices. I will choose the **Total Price** and the **Base Price** column as the features to train the model, and the **Units Sold** column as labels for the model
* Now let’s split the data into training and test sets and use the decision tree regression algorithm to train our model:
* Now let’s input the features **(Total Price, Base Price)** into the model and predict how much quantity can be demanded based on those values:

#features = [["Total Price", "Base Price"]]

2

features = np.array([[133.00, 140.00]])

3

model.predict(features)

**array([27.])**

All the above codes explanations are as Python code in the colab document

### Summary

So this is how you can train a machine learning model for the task of product demand prediction using Python. Price is one of the major factors that affect the demand for the product. If a product is not a necessity, only a few people buy the product even if the price increases. I hope you liked this article on product demand prediction with machine learning using Python. Feel free to ask your valuable questions in the comments section below.