

### Problem Statement:-

### Data Analysis Steps :-

1. Importing Libraries
2. Collection of Data.
3. Checking data types
4. Checking The null values
5. Exploratory Data Analysis
6. Visulization.
7. Finding Meaningful Insights

The screenshot shows a Jupyter Notebook window titled 'Untitled15' with a last checkpoint 25 minutes ago. The interface includes a top menu bar (File, Edit, View, Insert, Cell, Kernel, Widgets, Help) and a toolbar with icons for file operations, running, and code execution. The code cell contains the following Python code:

```
In [2]: ## importing necessary libraries
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import warnings
warnings.simplefilter('ignore')
```

The next code cell contains:

```
In [3]: df=pd.read_excel('customer_retention_dataset.xlsx')
```

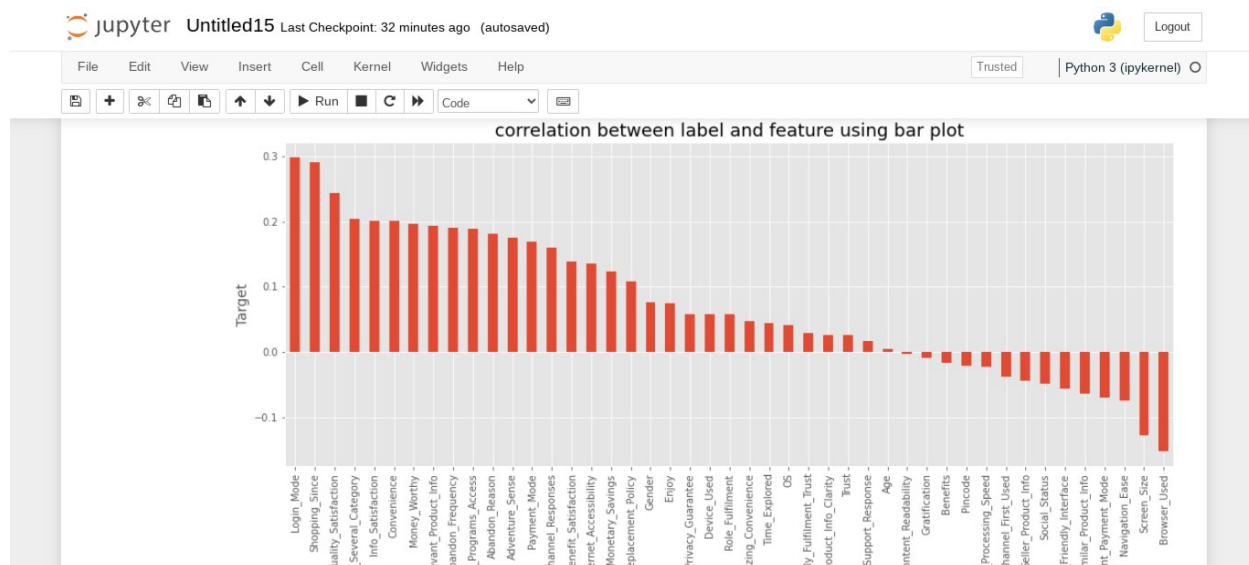
The third code cell contains:

```
In [4]: df.head(10)
```

The output cell shows the first 10 rows of the dataset:

```
Out[4]:
```

1 Gender of respondent	2 How old are you?	3 Which city do you shop online from?	4 What is the Pin Code of where you shop online from?	5 Since How Long You are Shopping Online ?	6 How many times you have made an online purchase in the past 1 year?	7 How do you access the internet while shopping on-line?	8 Which device do you use to access the online shopping?	9 What is the screen size of your mobile device? littitit	10 What is the operating system (OS) of your device? littitit	... (promotion, sales period)	Longer time in displaying graphics and photos (promotion, sales period)	Lat declaration of price (promotion sales period)
1	2	3	4	5	6	7	8	9	10	...	Longer time	Lat



```

jupyter Untitled15 Last Checkpoint: 27 minutes ago (autosaved)
File Edit View Insert Cell Kernel Widgets Help Trusted Python 3 (ipykernel)

In [6]: df.info()

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 269 entries, 0 to 268
Data columns (total 71 columns):
# Column
Non-Null Count  Dtype
---  ---
0  1Gender of respondent
269 non-null    object
1  2 How old are you?
269 non-null    object
2  3 Which city do you shop online from?
269 non-null    object
3  4 What is the Pin Code of where you shop online from?
269 non-null    int64
4  5 Since How Long You are Shopping Online ?
269 non-null    object
5  6 How many times you have made an online purchase in the past 1 year?
269 non-null    object

```

Observation:-

1. Took Recommendation as main variable and found correction with it.
2. \* Most of the female customers shopped online from more than 4 years and the count is also high for the females who shopped from 2-3 years. And only few male customers shop online more than 4 years. Which means the female customers are more enthusiastic to buy products from the online shopping websites. \* Many customers whose age between 31-40 years and 21-30 years used Smart phones followed by Laptops to access the online shopping websites. \* Most of the customers access the shopping websites more than 31-40 times in 1 year through Mobile Internet to shop the products also most of the customers who used mobile internet to access the online shopping

website made online purchase less than 10 times in a year. And only few of the customers used WiFi network to access the shopping store. \* Most of the customers used e-commerce websites less than 10 times in a year from the city Delhi to shop the products.