Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Technology** **Department of Information and Communication Technology**	
Subject: Data Visualization and Dashboards (01CT0410)	**Aim:** Working over Python	
Assigment – 4	**Date:-** 12-02-2024	**Enrollment No:-** 92200133030

Aim: Working over Tableau

IDE: Microsoft Excel, Tableau

Pre-Requisites:- Insert the Customer's Full Name, Gender, City, and Country From the Customer Sheet Using VLOOKUP Function In Order Dataset In Excel Itself on the Basis of Customer ID.

Now Import Necessary Libraries for Analysis:-

```
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
```

```
Dataset = pd.read_excel("D:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigments/Assignment 4 working over Python/excel_pivots.xlsx" , 'Orders')
```

```
Dataset['Order_Date'] = pd.to_datetime(Dataset['Order_Date'])
Dataset["Year"] = Dataset["Order_Date"].dt.year
Dataset["Quater"] = Dataset["Order_Date"].dt.quarter
Dataset["Month"] = Dataset["Order_Date"].dt.month
```

Questions:

1) **Average "total cost" and count of the product 1 under normal order category**

   Code:-

```
Order_With_Normal_Category_of_Product_1 = Dataset[(Dataset["Order_Category"] == "Normal Order")&
(Dataset["Product_#"] == "Product 1")]

Count_of_Order_With_Normal_Category_of_Product_1 =
Order_With_Normal_Category_of_Product_1.shape[0]
Average_Total_Cost_of_Order_With_Normal_Category_of_Product_1 =
Order_With_Normal_Category_of_Product_1["Total_Cost"].mean()

print(f"The Average Total Cost For Product 1 In Normal Category Is $
{Average_Total_Cost_of_Order_With_Normal_Category_of_Product_1} and the Count of Orders are
{Count_of_Order_With_Normal_Category_of_Product_1}.")
```

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Output:-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
The Average Total Cost For Product 1 In Normal Category Is $ 151.71428571428572 and the Count of Orders are 14.
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Python>
```

2) Average "total cost" and count of product 1 under the short order category

Code :-

```
Order_With_Small_Category_of_Product_1 = Dataset[
   (Dataset["Order_Category"] == "Small Order") & (Dataset["Product_#"] == "Product 1")
]

Count_of_Order_With_Small_Category_of_Product_1 = (
   Order_With_Small_Category_of_Product_1.shape[0]
)
Average_Total_Cost_Order_With_Small_Category_of_Product_1 = (
   Order_With_Small_Category_of_Product_1["Total_Cost"].mean()
)
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
The Average Total Cost For Product 1 In Normal Category Is $ 50.72727272727273 and the Count of Orders are 11.
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Python>
```

3) Average "total cost" and count of product 1 under the large order category

Code :-

```
Order_With_Large_Category_of_Product_1 = Dataset[
   (Dataset["Order_Category"] == "Large Order") & (Dataset["Product_#"] == "Product 1")
]

Count_of_Order_With_Large_Category_of_Product_1 = (
   Order_With_Large_Category_of_Product_1.shape[0]
)
Average_Total_Cost_Order_With_Large_Category_of_Product_1 = (
   Order_With_Large_Category_of_Product_1["Total_Cost"].mean()
```

```
)

print(
    f"The Average Total Cost For Product 1 In Normal Category Is $
{Average_Total_Cost_Order_With_Large_Category_of_Product_1} and the Count of Orders are
{Count_of_Order_With_Large_Category_of_Product_1}."
)
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
The Average Total Cost For Product 1 In Normal Category Is $ 402.75 and the Count of Orders are 32.
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Python>
```

4) Which month has the highest count of orders placed?

Code :-

```
Dataset["Order_Date"] = pd.to_datetime(Dataset["Order_Date"])
Dataset["Month"] = Dataset["Order_Date"].dt.month
Month_Having_Highest_Count = Dataset["Month"].mode()[0]
print(f"The {Month_Having_Highest_Count} th Month Has the Highest Count of Orders.")
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
The 11 th Month Has the Highest Count of Orders.
```

5) Which year has the highest "average total cost"?

Code :-

```
Dataset["Order_Date"] = pd.to_datetime(Dataset["Order_Date"])
Dataset["Year"] = Dataset["Order_Date"].dt.year
Year_Wise_Average_Total_Cost = Dataset.groupby("Year")["Total_Cost"].mean()
Year_Having_Highest_Average_Total_Cost = Year_Wise_Average_Total_Cost.idxmax()
print(
    f"The Year - {Year_Having_Highest_Average_Total_Cost} Has The Highest Average Total Cost."
)
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Python> & "C:/Program Fi
les/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigments/Assignment 4 working over
Python/Demo.py"
The Year - 2011 Has The Highest Average Total Cost.
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Python>
```

6) What is the ratio of the number of orders placed by males and females?

Code :-

```
Orders_Given_By_Male_Customers = Dataset[(Dataset["Gender"] == "Male")]
Orders_Given_By_Female_Customers = Dataset[(Dataset["Gender"] == "Female")]

Count_of_Orders_Given_By_Male_Customers = Orders_Given_By_Male_Customers.shape[0]
Count_of_Orders_Given_By_Female_Customers = Orders_Given_By_Female_Customers.shape[0]

Ratio_of_Count_of_Orders_Given_By_Males = (
    Count_of_Orders_Given_By_Male_Customers / Dataset.shape[0]
) * 100
Ratio_of_Count_of_Orders_Given_By_Females = (
    Count_of_Orders_Given_By_Female_Customers / Dataset.shape[0]
) * 100

print(
    f"The Ratio Of The Number of Orders Placed By Males and Females are :-\nMales -
{Ratio_of_Count_of_Orders_Given_By_Males} %\nFemales -
{Ratio_of_Count_of_Orders_Given_By_Females} %"
)
```

Output:-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Python> & "C:/Program Fi
les/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigments/Assignment 4 working over
Python/Demo.py"
The Ratio Of The Number of Orders Placed By Males and Females are :-
Males - 43.8 %
Females - 56.2 %
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Python>
```

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7) What is the ratio of the total cost of the orders placed by males and females?

Code :-

```
Orders_Given_By_Male_Customers = Dataset[(Dataset["Gender"] == "Male")]
Orders_Given_By_Female_Customers = Dataset[(Dataset["Gender"] == "Female")]

Total_Cost_of_Orders_Given_By_Males = Orders_Given_By_Male_Customers["Total_Cost"].sum()
Total_Cost_of_Orders_Given_By_Females = Orders_Given_By_Female_Customers[
    "Total_Cost"
].sum()

Ratio_of_Total_Cost_of_Orders_Given_By_Males = (
    Total_Cost_of_Orders_Given_By_Males / Dataset["Total_Cost"].sum()
) * 100
Ratio_of_Total_Cost_of_Orders_Given_By_Females = (
    Total_Cost_of_Orders_Given_By_Females / Dataset["Total_Cost"].sum()
) * 100

print(
    f"The Ratio Of The Total Cost of Orders Placed By Males and Females are :-\nMales -
{Ratio_of_Total_Cost_of_Orders_Given_By_Males} %\nFemales -
{Ratio_of_Total_Cost_of_Orders_Given_By_Females} %"
)
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Python> & "C:/Program Fi
les/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigments/Assignment 4 working over
Python/Demo.py"
The Ratio Of The Total Cost of Orders Placed By Males and Females are :-
Males - 47.29885704633748 %
Females - 52.70114295366252 %
```

8) How many orders are placed under each order category for the country "INDIA"?

Code :-

```
Orders_Placed_In_India = Dataset[Dataset["Country"] == "India"][
    "Order_Category"
].value_counts()
print(f"Category Wise Number of Order Placed :-\n{Orders_Placed_In_India}")
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Python> & "C:/Program Fi
les/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigments/Assignment 4 working over
Python/Demo.py"
Category Wise Number of Order Placed :-
Order_Category
Large Order     11
Small Order      5
Normal Order     5
Name: count, dtype: int64
```

9) What is the total cost of the order placed by the customer "Willis Brinks"?

Code :-

```
Order_Placed_By_Willis_Brinks = Dataset[Dataset["Full_Name"] == "Willis Brinks"]

Total_Cost_of_Orders_by_Willis_Brinks = Order_Placed_By_Willis_Brinks[
    "Total_Cost"
].sum()
print(
    f"The Total Cost Of Orders Placed By Willis Brinks Is $ {Total_Cost_of_Orders_by_Willis_Brinks}"
)
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Python> & "C:/Program Fi
les/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigments/Assignment 4 working over
Python/Demo.py"
The Total Cost Of Orders Placed By Willis Brinks Is $ 1214
```

10) Name the customer who has placed the order with the highest amount.

Code :-

```
Name_of_Highest_Amount_Order = Dataset.loc[Dataset["Total_Cost"].idxmax(), "Full_Name"]
Order_Value = Dataset.loc[Dataset["Total_Cost"].idxmax(), "Total_Cost"]
print(
    f"{Name_of_Highest_Amount_Order} Has Placed The Order With The Highest Amount Which Is $
{Order_Value}."
)
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Python> & "C:/Program Fi
les/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigments/Assignment 4 working over
Python/Demo.py"
Britni Baisden Has Placed The Order With The Highest Amount Which Is $ 540.
```

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11) What is the most common order quantity?

Code :-

```
Most_Common_Order_Quantity = Dataset["Quantity"].mode()[0]
print(f"{Most_Common_Order_Quantity} Is the Most Common Order Frequency.")
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
6 Is the Most Common Order Frequency.
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Python>
```

12) Are there specific quarters with higher order volumes?

Code:-

```
Quater_Wise_Order = Dataset["Quater"].value_counts()
print(f"Quarter Wise Order Volumes :-\n{Quater_Wise_Order}")
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
Quarter Wise Order Volumes :-
Quater
3    136
4    136
1    118
2    110
Name: count, dtype: int64
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Python>
```

13) How does order frequency vary over the month?

Code :-

```
Month_Wise_Order = Dataset["Month"].value_counts()
print(f"Month Wise Order Frequency :-\n{Month_Wise_Order}")
```

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Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
Month Wise Order Frequency :-
Month
11    52
8     51
9     49
12    46
1     41
2     39
3     38
10    38
4     37
5     37
6     36
7     36
Name: count, dtype: int64
```

14) Are there certain categories contributing more to revenue?

Code :-

```
Total_Revenue = Dataset["Total_Cost"].sum()
Total_Revenue_From_Small_Category = (
    Dataset[(Dataset["Order_Category"] == "Small Order")]["Total_Cost"].sum()
    / Total_Revenue
) * 100
Total_Revenue_From_Normal_Category = (
    Dataset[(Dataset["Order_Category"] == "Normal Order")]["Total_Cost"].sum()
    / Total_Revenue
) * 100
Total_Revenue_From_Large_Category = (
    Dataset[(Dataset["Order_Category"] == "Large Order")]["Total_Cost"].sum()
    / Total_Revenue
) * 100

print(
    f"Category Wise Contribution :-\nSmall Category :- {Total_Revenue_From_Small_Category} %\nNormal
Category :- {Total_Revenue_From_Normal_Category} %\nLarge Category :-
{Total_Revenue_From_Large_Category}%"
)
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
Category Wise Contribution :-
Small Category :- 3.749788863239682 %
Normal Category :- 18.15072349529869 %
Large Category :- 78.09948764146164%
```

15) What is the distribution of orders across different order categories?

Code :-

```
Cateory_Wise_Distribution = Dataset["Order_Category"].value_counts()
print(Cateory_Wise_Distribution)
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
Order_Category
Large Order     271
Normal Order    141
Small Order      88
Name: count, dtype: int64
```

16) Can you identify the most common product purchased in large orders?

Code :-

```
Order_With_Large_Category = Dataset[(Dataset["Order_Category"] == "Large Order")]
Product_Distribution_In_Large_Orders = Order_With_Large_Category[
   "Product_#"
].value_counts()
print(Product_Distribution_In_Large_Orders)
```

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Output:-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
Product_#
Product 6     32
Product 1     32
Product 4     30
Product 3     29
Product 7     29
Product 8     27
Product 5     25
Product 9     25
Product 10    21
Product 2     21
Name: count, dtype: int64
```

17) What is the average quantity of products per order?

Code :-

```
Average_Quantity = Dataset["Quantity"].mean()
print(Average_Quantity)
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
The Average Quantity of Product Is 15.424
```

18) Which product has the highest unit price?

Code :-

```
Product_With_Highest_Unit_Price = Dataset.loc[
   Dataset["Unit_Price"].idxmax(), "Product_#"]
print(Product_With_Highest_Unit_Price)
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
Product 1 Has the Highest Unit Price.
```

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19) What is the total revenue generated from large orders versus normal orders?

Code :-

```
Total_Revenue = Dataset["Total_Cost"].sum()
Total_Revenue_From_Normal_Category = (
    Dataset[(Dataset["Order_Category"] == "Normal Order")]["Total_Cost"].sum()
    / Total_Revenue
) * 100
Total_Revenue_From_Large_Category = (
    Dataset[(Dataset["Order_Category"] == "Large Order")]["Total_Cost"].sum()
    / Total_Revenue
) * 100

print(f"The Large Category Has Generated {Total_Revenue_From_Large_Category} % and Normal
Category Has Generated {Total_Revenue_From_Normal_Category} % of Total Revenue")
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
The Large Category Has Generated 78.09948764146164 % and Normal Category Has Generated 18.15072349529869 % of Total Reven
ue
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Python>
```

20) What is the proportion of large orders to normal orders in the dataset?

Code :-

```
Order_With_Large_Category = Dataset[(Dataset["Order_Category"] == "Large Order")]
Order_With_Normal_Category = Dataset[(Dataset["Order_Category"] == "Normal Order")]
print(f"The Proportion of Large Order Is {(Order_With_Large_Category.shape[0] / Dataset.shape[0]) * 100}
% and Normal Order Is {(Order_With_Normal_Category.shape[0] / Dataset.shape[0]) * 100} %")
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
The Proportion of Large Order Is 54.2 % and Normal Order Is 28.199999999999996 %
```

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21) How many unique customers are represented in the dataset?

Code :-

```
Unique_Customers = list(set(Dataset["Full_Name"]))
No_of_Unique_Customers = len(Unique_Customers)
print(f"There are {No_of_Unique_Customers} Unique Customers in the Dataset")
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
There are 146 Unique Customers in the Dataset
```

22) What is the most frequently purchased product across all orders?

Code :-

```
Frequently_Purchased_Product = Dataset["Product_#"].mode()[0]
print(f"{Frequently_Purchased_Product} Is The Most Frequently Purchased Product")
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
Product 3 Is The Most Frequently Purchased Product
```

23) What is the average total cost for each order category?

Code :-

```
Order_With_Large_Category = Dataset[(Dataset["Order_Category"] == "Large Order")]
Order_With_Normal_Category = Dataset[(Dataset["Order_Category"] == "Normal Order")]
Order_With_Small_Category = Dataset[(Dataset["Order_Category"] == "Small Order")]
Average_Total_Cost_In_Large_Order = Order_With_Large_Category["Total_Cost"].mean()
Average_Total_Cost_In_Normal_Order = Order_With_Normal_Category["Total_Cost"].mean()
Average_Total_Cost_In_Small_Order = Order_With_Small_Category["Total_Cost"].mean()
print(f"Category Wise Average Total Cost :-\nSmall Category
{Average_Total_Cost_In_Small_Order}\nNormal Cateogory =
{Average_Total_Cost_In_Normal_Order}\nLarge Category = {Average_Total_Cost_In_Large_Order}"
)
```

Output :-

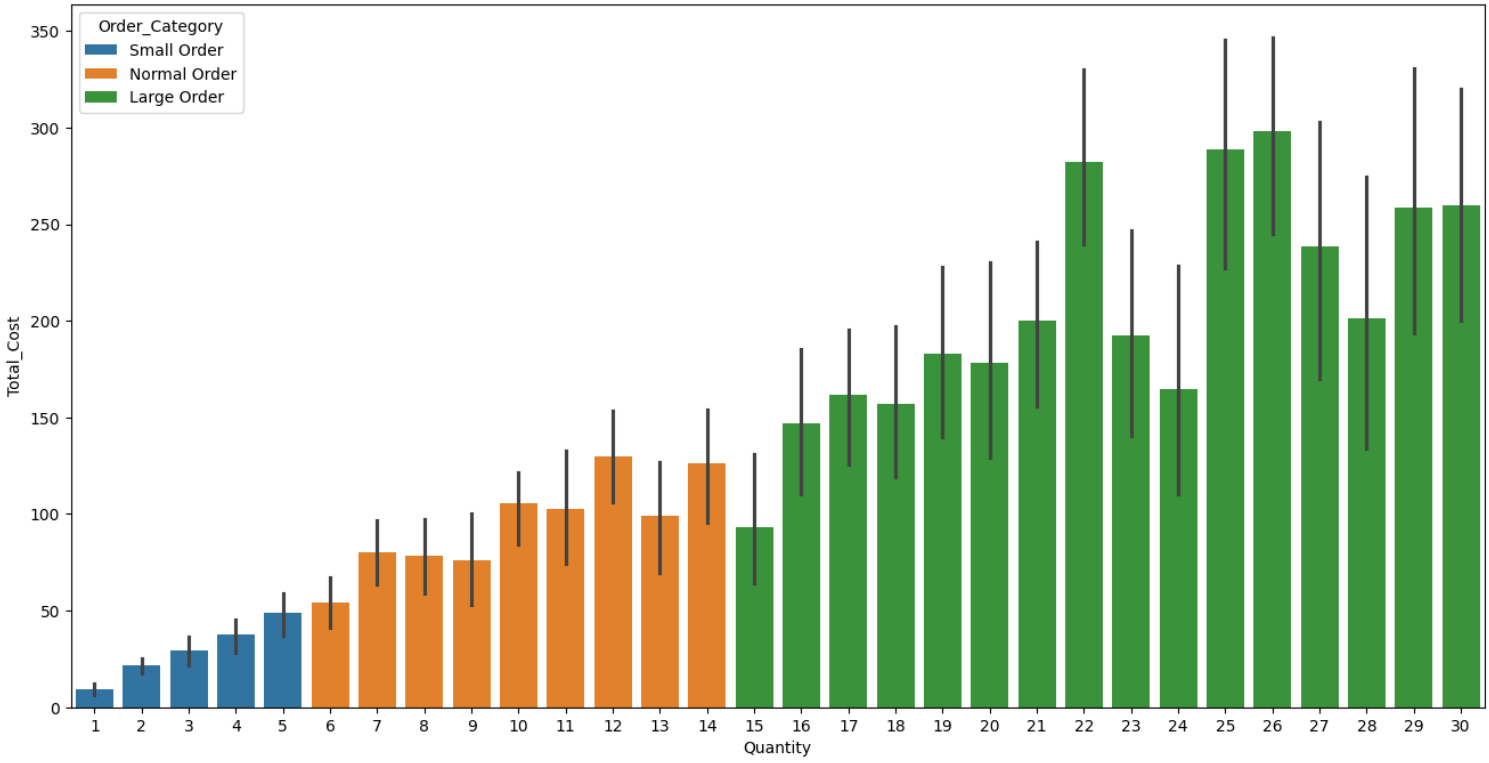
```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
Category Wise Average Total Cost :-
Small Category = 30.272727272727273
Normal Cateogory = 91.45390070921985
Large Category = 204.74169741697418
```

24) How does the quantity of products impact the total cost in different order categories?

Code :-

```
plt.figure(figsize=(16,8))
sns.barplot(x=Dataset['Quantity'] , y=Dataset['Total_Cost'] , hue=Dataset['Order_Category'])
plt.show()
```

Output :-



Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Technology** **Department of Information and Communication Technology**	
Subject: Data Visualization and Dashboards (01CT0410)	**Aim:** Working over Python	
Assigment – 4	**Date:-** 12-02-2024	**Enrollment No:-** 92200133030

25) What is the proportion of small, normal, and large orders in the dataset?

Code :-

```
Order_With_Large_Category = Dataset[(Dataset["Order_Category"] == "Large Order")]
Order_With_Normal_Category = Dataset[(Dataset["Order_Category"] == "Normal Order")]
Order_With_Small_Category = Dataset[(Dataset["Order_Category"] == "Small Order")]
Orders_In_Large_Order = (Order_With_Large_Category.shape[0] / Dataset.shape[0]) * 100
Orders_In_Normal_Order = (Order_With_Normal_Category.shape[0] / Dataset.shape[0]) * 100
Orders_In_Small_Order = (Order_With_Small_Category.shape[0] / Dataset.shape[0]) * 100

print(f"Category Wise Proportion of Orders\nLarge Category :- {Orders_In_Large_Order} %\nNormal Category :- {Orders_In_Normal_Order} %\nSmall Category :- {Orders_In_Small_Order} %")
```

Output :-

```
PS D:\Aryan Data\Usefull Data\Semester - 4\Data Visulization and Dashboards\Assigments\Assignment 4 working over Pytho> &
 "C:/Program Files/Python312/python.exe" "d:/Aryan Data/Usefull Data/Semester - 4/Data Visulization and Dashboards/Assigm
ents/Assignment 4 working over Python/Demo.py"
Category Wise Proportion of Orders
Large Category :- 54.2 %
Normal Category :- 28.199999999999996 %
Small Category :- 17.599999999999998 %
```