

Introduction To Data Science



Assignment Two

Delivery Instructions:

1. Cheaters will be graded by *-ve points, Don't copy any code from anywhere.*
2. Due Date: **May 18, 2022**
3. No late submission will be accepted.
4. upload your python code as well as screenshots of the outcomes in zip file
YourGroup-Student1ID-Assignment2.zip

Load the supermarket sales data from the supplied file "supermarket_sales .csv", which contains historical sales data from different separate grocery branches.

Attributes information

- Invoice id: Computer generated sales slip invoice identification number
- Branch: Branch of supercenter (3 branches are available identified by A, B and C).
- City: Location of supercenters
- Customer type: Type of customers, recorded by Members for customers using member card and Normal for without member card.
- Gender: Gender type of customer
- Product line: General item categorization groups - Electronic accessories, Fashion accessories, Food and beverages, Health and beauty, Home and lifestyle, Sports and travel
- Unit price: Price of each product in \$
- Quantity: Number of products purchased by customer
- Tax: 5% tax fee for customer buying
- Total: Total price including tax
- Date: Date of purchase (Record available from January 2019 to March 2019)
- Time: Purchase time (10am to 9pm)
- Payment: Payment used by customer for purchase (3 methods are available – Cash, Credit card and Ewallet)
- COGS: Cost of goods sold
- Gross margin percentage: Gross margin percentage
- Gross income: Gross income
- Rating: Customer stratification rating on their overall shopping experience (On a scale of 1 to 10)

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Then Perform the following functions:

1. make a chart to illustrate if gross income is increasing or decreasing over time.
2. make a chart to show if sales are increasing or decreasing over time.
3. Make a chart to show how much each branch sells.
4. Make a chart to demonstrate how much each branch and type of customer sells
(To show how the type of customer affects their amount of sale).
5. Make a chart to show the relationship between Gross income and city.
6. Create a graph that displays the average rate for each branch.
7. Make a chart to show the relationship between customer gender and customer rate.
8. Make a pie chart to display the gender distribution of your customers.
9. Make a pie chart to show your supermarket payment preferences (percentage of each payment type). Which method of payment is the most popular?
10. Make a chart to compare the payment type usage across the genders.
11. Make a chart to show sales per product.