Honor code

By submitting this assignment, I affirm the following:

1. All work presented in this assignment is my own. I have not collaborated with others or copied work from any unauthorized source.
2. If I used AI tools like ChatGPT, Co-Pilot, etc., I only sought guidance or clarification. Any generated content has been fully understood and appropriately modified to align with the assignment.
3. I understand the submitted code and can explain my work if asked.

I declare that I have read, understood, and agree to abide this honor code.

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Student number: 713837tv

Date: 31/10/2024

1. Missing values table

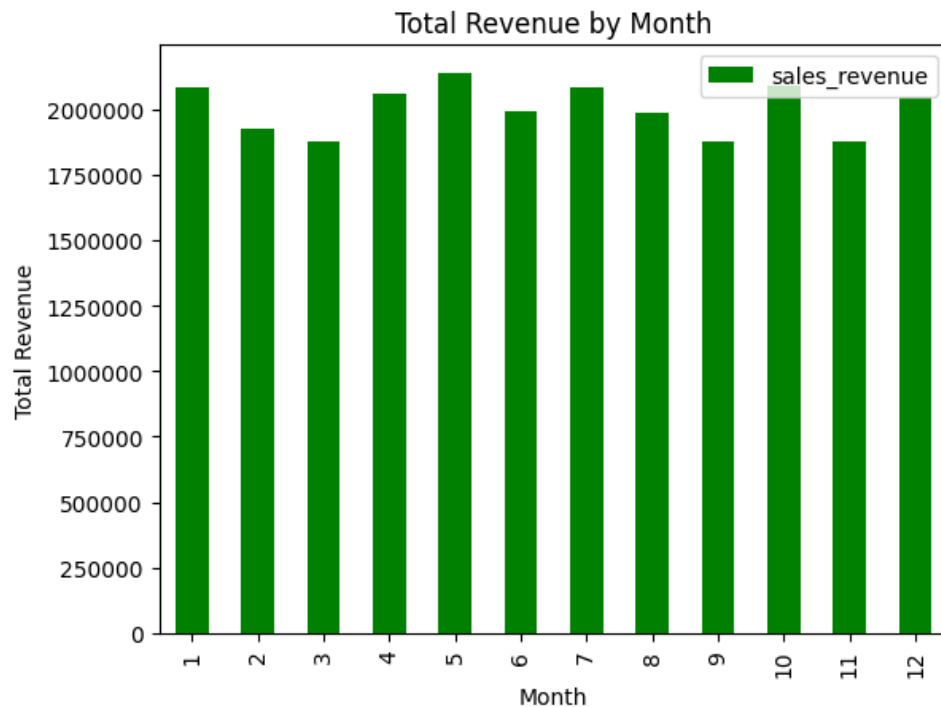| Attribute	# of missing values
age_bracket	53
tier	28
gender	152
oPhone	50
oWatch	40
oPods	45
oTV	30
date	17
card	20

2. Total number of observations (rows) in orange_data_clean: 19567

3. Total number of customers who own multiple products: 8033

4. Total number of female young customer who own Visa or Mastercard credit card: 1825

5. Percentage of customers older than 25 who own multiple products purchased with debit card: 13.61%

6. Total number of customers who own all four products: 89

7. Average number of products purchased by tier:

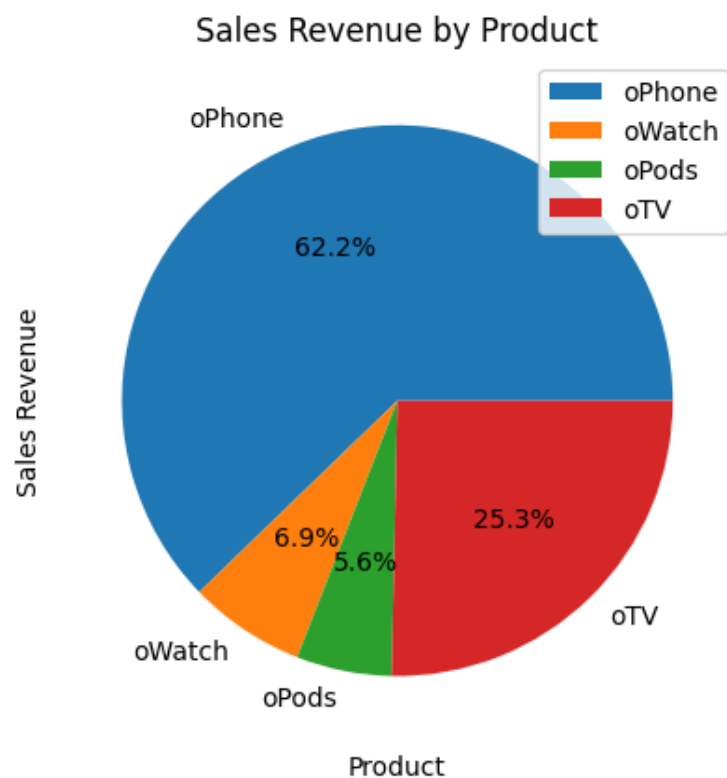| Tier	Average number of products purchased
silver	1.50
gold	1.48
platinum	1.50

8. a) Total sales revenue from all the customers: 24008100

   b) Month with the highest sales: May

   c) Sales revenue from each product:

Product	Sales revenue
oPhone	14938800
oWatch	1645500
oPods	1341300
oTV	6082500

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9. a) Bar chart to visualize revenue by month:

b) Pie chart to visualize each product's share of revenue:

10. a) Most preferred card type among young_oPhone_owners: 'Visa_debit'

b) Average number of products purchased by young_oPhone_owners: 1.69

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