Dear Data science Team Leader,

I have prepared and explored the data using Google Colab. After familiarizing, and analyzing the dataset, I have a couple of recommendations on ways to improve the dataset to complete the given task.

After loading and cleaning the data, I tried to understand the statistical properties of the dataset in general and the numerical columns in the dataset. I checked for the average, median, max, and min for each of the numerical columns in the dataset. I also tried to find the continuous and categorical distribution on some of the columns: category, payment\_type and customer\_type.

I found a couple of interesting details while working on the analysis. Some of these details are.

* I found out the average unit price, quantity and total are 7.82, 2.50, and 19.71. I found this interesting because the average unit price multiplied by the quantity is very close to the average total (ie 7.82 x 2.50 = 19.5).
* I found out the total variable and the unit price variable have the highest correlation coefficient in the matrix with 0.79. This indicates there is a strong positive relationship between the price of an item and the total paid for whatever quantity of items bought.
* I found out the most common category of items bought in that store is fruits with 998 out of the 7829 transactions.
* I found out that there are 5 types of customer membership: non-member, standard, premium, basic, and gold with non-members being the largest customer type with 1601.
* I found out the store accepts 4 payment options: cash, credit card, e-wallet, debit card with cash payments the most common.

Based on my analysis of the dataset, these are my recommendations on changes needed to complete the task:

* I recommend adding a field with the individual name of every item bought.
* I recommend deleting one or more of the transaction\_id field, timestamp, and product\_id.
* I recommend substituting an individual product name with the product\_id as the product\_id offers little to no help in solving the problem statement.

Best regards,

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