

Using 'supermarket\_sales.csv' file do the following operations and give required answer by using proper programming process.

- 1). Load the dataset into a pandas DataFrame and read first 8 rows.
- 2). Check for missing values and fill it by mean values of that particular column if any.
- 3). Find the number of orders which have 'Quantity' less than 3 and which have (either 'Rating' greater than 8.5 or 'Total' greater than 600).
- 4). Find the sum of 'Total' purchasing price spent by Member and Normal 'Customer type'.
- 5). Find the percentage of total of 'gross income' based on the different 'Payment' methods used by customers. (Ewallet, Cash and Credit card)
- 6). Analyze the purchasing behavior of male and female customers using 'Gender' column. Find their average purchase prices using 'Total' column.
- 7). Create a scatter plot that shows the relationship between total amount spent and rating. (keep '+' marker, with marker size 100 and green color).
- 8). Create a box plot that shows the distribution of 'Rating' and 'Quantity'. And comment about outliers in both columns.
- 9). Visualize with parallel co-ordinates for 'Unit price', 'Total', 'cogs' columns' data with respect to 'Product line'.