Project Name: **Customer Lifetime Value Analysis (PowerBI Dashboard)**

Major tasks (Dashboard):

* Invoice Value Calculation
* Customer Acquisition and Retention Analysis
  + Understanding how many customers acquired every month
  + Understand the retention of customers on a month-on-month basis
* Monthly KPI tracking
  + # of orders, average order value, number of customers (existing/new),
  + # quantity, by category, by month, by week, by day
* Order and Sales Analysis
  + 2.8 Calculate the Revenue, Marketing spend, percentage of marketing spend out of revenue, Tax, # percentage of delivery charges by month.
  + Understand the trends/seasonality of sales by category, user gender, user location, month etc… (PowerBI)

Challenging problems I solved:

1. **Given columns customer ID and transaction date, calculate how many customers acquired every month?**

My solution:

* Sort the table in ascending order by transaction date (from earliest to latest).
* Remove duplicates in column customer ID and their rows.

Tips: When removing duplicates after sorting, it automatically keeps the first unique customer ID, which is the earliest transaction record of the customer. If the customer buys more in the future, he or she is no longer the new customer.

1. **Understand the retention of customers on a month-on-month basis?**

Firstly, we need to know the expected results: for each month, there will be a table showing how many customers retained on and after the month.

My solution:

* Calculate the earliest month of transaction for each customer.
* Merge the result above into transaction table, so that there will be 3 columns: customer ID, earliest month, current transaction month.
* Create a slicer using values of earliest month (to select the 1st month of the period).
* Count the distinct number of customers in the months.

Tips: the earliest month helps to select the initial customers. For example, when January is selected, the result should show how many new customers in January are still active in the following months.