BI Business Finance - Technical Test *(Version 3)*

There will be **2 sections** (SQL technical & Case Study) in this test, of which all of them will be based on the two data tables shown below:

Table 1: order_table
Description: Table that records all orders/transactions made on the marketplace at order_id level

Column name	Description	type
buyer_delivery_state	Malaysian state the order will be delivered to	varchar
buyer_id	unique identifier of the buyer	bigint
commission_fee	commission fee charged for the order	double
discount_by_seller	discount amount offered by seller	double
discount_by_shopee	discount amount offered by shopee	double
gmv	Gross merchandise value, a.k.a. total sales	double
is_cross_border	Cross border = Overseas, 1 indicates cross border seller	integer
is_official_store	Official store = Shopee Mall, 1 indicates official store seller	integer
level1_category	Level 1 Category of the product (a.k.a. Main category)	varchar
level2_category	Level 2 Category of the product (a.k.a. Sub category)	varchar
order_date	date of which order was placed	date
order_id	unique identifier of the order	bigint
order_status	status of order	varchar
price_after_discount	price after discount	double
price_before_discount	price before discount	double
product_id	unique identifier of the product	bigint
product_name	name of product	varchar
qty_sold	number of units sold	double
seller_delivery_state	Malaysian state the order will be delivered from	varchar
shop_id	unique identifier of the seller	bigint
voucher_applied	1 indicates this order has a voucher applied	integer

Table 2: Ads table
Description: Table that records advertising spend by sellers

Column name	Description	type
shop_id	unique identifier of the seller	bigint
ads_spent	The amount of ads credit spent by the seller	bigint
transaction_date	date of which the ads credit spend was incurred	date

1) **Please provide the top 10% seller list (ranked by GMV) for each of the states in Malaysia, for the month of Jan'23.**
    ○ *Data output should include seller's shop id, total order & total GMV in that month.*

    Answer below:

2) **Please provide the number of buyers who have purchased in Jan'23, and continued to purchase in the next 2 months (Feb'23 and Mar'23)**
    ○ *Data output should have the number of buyers for all 3 months.*

    Answer below:

3) **Please provide the full list of orders at order id level, for our FMCG seller (superbaby, shopid: 788688), along with the total revenue generated by each order.**
    ○ *Total revenue is defined as commission fee + ads spent by seller*
    ○ *Note that given ads spent data is at seller level, we have to apportion this back into order level to achieve the granularity required. The logic suggested for this study is to apportion by gmv.*

    Answer below:

Case: Shopee sees a month-on-month growth of +10% in GMV from Jan to Feb, what is contributing to the growth?

1. **Write the problem statement & explain the method of approach**
   Guide
   - Tell us how you intend to answer this question with data (using the 2 data tables above)
   - What is the data you need, how should it be pulled?
   - What is your hypothesis?

   Answer below:

2. **Expected Outcome / Additional Remarks**
   Guide
   - What do you expect to see from the data pull?
   - How would you summarize your findings and storytell?

   Answer below: