BUSINESS REQUESTS

1. Provide a list of products with base price greater than 500 and featured in promo type BOGOF (Buy One Get One Free).

product_code	product_name	category
P08	Atliq_Double_Bedsheet_set	Home Care
P14	Atliq_waterproof_Immersion_Rod	Home Appliances

These **two** products are high value products that are heavily discounted. People tend to buy home care / home appliances category products when they are featured in BOGOF. **Atliq Double Bedsheet set** had a lift in sales (**Increment Sales Unit%**) by **617%** and **Atliq waterproof immersion rod** had a **632%** lift in sales. Together these products contributed **30.47M** to the **Incremental Revenue**.

MySQL Query used:

```sql
Select
    distinct product_code,
    p.product_name,
    p.category
from fact_events e
join dim_products p
    using(product_code)
where base_price>500 and
    promo_type="BOGOF";
```

2. Generate a report that provides an overview of number of stores in each city.

city	Store_Counts
Bengaluru	10
Chennai	8
Hyderabad	7
Coimbatore	5
Visakhapatnam	5
Madurai	4
Mysuru	4
Mangalore	3
Trivandrum	2
Vijayawada	2

The above table shows the number of stores in each city. **Bengaluru, Chennai and Hyderabad** (all Tier 1 cities) have **more than 5 stores**.

MySQL Query used:

```
Select
    city,
       sum(1) as Store_Counts
FROM dim_stores
group by  city
order by Store_Counts Desc;
```

3. Generate a report that displays each campaign along with the total revenue generated before and after the campaign.

campaign_name	Total_revenue_before_promo_in_Millions	Total_revenue_after_promo_in_Millions
Sankranti	58.13	124.15
Diwali	82.57	171.46

Incremental revenue generated by **Sankranti** and **Diwali** campaign are **66.02M** and **88.89M** respectively. The **Increment Revenue %** is **113.6%** for **Sankrati** campaign and **107.6%** for **Diwali** campaign.

MySQL Query used:

```
(select
    * ,
    case
        when promo_type = "50% off" then base_price * (1 - 0.50)
        when promo_type = "25% off" then base_price * (1 - 0.25)
        when promo_type = "bogof" then base_price * (1 - 0.50)
        when promo_type = "500 cashback" then (base_price - 500)
        when promo_type = "33% off" then base_price * (1 - 0.33)
        else base_price
    end as promo_price,
    if(promo_type = "BOGOF",2*`quantity_sold(after_promo)`, `quantity_sold(after_promo)`) as qty_after_promo
from fact_events)
select
    campaign_name,
    round(sum(base_price*`quantity_sold(before_promo)`)/1000000,2) as Total_revenue_before_promo_in_Millions,
    round(sum(promo_price*qty_after_promo)/1000000,2) as Total_revenue_after_promo_in_Millions
from fact_events_with_promo_price_and_corrected_qty
join dim_campaigns c using(campaign_id)
group by campaign_id;
```

4. Produce a report that calculates the Incremental Sold Unity% for each category during Diwali campaign. Also provide ranking for categories based on their ISU%

category	ISU_percent	rank_order
Home Appliances	588.4512	1
Home Care	203.1367	2
Combo1	202.3584	3
Personal Care	31.0574	4
Grocery & Staples	18.0478	5

Top 2 categories that had maximum ISU% is **Home Appliances** and **Home care** in Diwali campaign. **Grocery & staples** had **least ISU%** at 18.05%. Customers buy personal care products and grocery/staple items even when there is no sale. A slight increase in sales volume can be seen in these categories during Sales campaigns. On the other hand people tend to buy / stock home appliances or home care products when they are featured with good discounts.

MySQL Query used:

```sql
with cte1 as(select
    p.category,
    sum(`quantity_sold(before_promo)`) as Qty_before,
    sum(qty_after_promo) as Qty_after
from fact_events_with_promo_price_and_corrected_qty e
join dim_campaigns c using(campaign_id)
join dim_products p using(product_code)
where campaign_name = "Diwali"
group by category),
cte2 as(Select
    category,
    (Qty_after-Qty_before) as Incremental_sales,
    ((Qty_after-Qty_before)*100/Qty_before) as ISU_percent
from cte1)
select
    category,
    ISU_percent,
    rank() over(order by ISU_percent desc) as rank_order
    from cte2;
```

5. Create a report featuring the top 5 products ranked by IR% across all campaigns

product_name	category	IR_percent
Atliq_waterproof_Immersion_Rod	Home Appliances	266.187384
Atliq_High_Glo_15W_LED_Bulb	Home Appliances	262.983626
Atliq_Double_Bedsheet_set	Home Care	258.267904
Atliq_Curtains	Home Care	255.335366
Atliq_Farm_Chakki_Atta (1KG)	Grocery & Staples	160.005483

These five products showed the most lift in sales during sales campaign weeks due to discounted price. Similar to ISU% ranking here also **4 products** belong to **Home appliances** and **Home care** categories. **Atliq waterproof immersion rod** showed incremental revenue % of **266.18%** and topped the list of products.

MySQL Query used:

```sql
with cte1 as (
    select
    product_name,
    category,
    sum(base_price*`quantity_sold(before_promo)`) as revenue_before_promo,
    sum(promo_price*qty_after_promo) as revenue_after_promo
from fact_events_with_promo_price_and_corrected_qty
join dim_products p using(product_code)
group by product_code)
select
    product_name,
    category,
    (revenue_after_promo - revenue_before_promo)*100/revenue_before_promo as IR_percent
from cte1
order by IR_percent desc
Limit 5;
```