1. Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.

Solution:-

```
select distinct market
from dim_customer
where customer = 'Atliq Exclusive'and region = 'APAC'
order  by market;
```

2What is the percentage of unique product increase in 2021 vs. 2020? The final output contains these fields, unique_products_2020 unique_products_2021 percentage_chg

Solution:-

```
  with unique_products_2020 as
  (
    select count(distinct product_code)  as unique_products_2020
          from fact_gross_price
   where fiscal_year=2020
   ),
unique_products_2021 as
(
 select count(distinct product_code)  as unique_products_2021
 from fact_gross_price
 where fiscal_year=2021
 )

select
up20.unique_products_2020,
up21.unique_products_2021 ,
Round(((unique_products_2021- unique_products_2020)*100)/unique_products_2020,2) as
```

```
percentage_chg

from

unique_products_2020 up20,

unique_products_2021 up21;
```

3.Provide a report with all the unique product counts for each segment and sort them in descending order of product counts. The final output contains 2 fields, segment product_count

Solution:-

```
select segment, count(distinct product_code)  as product_count

from dim_product

group by segment

order by product_count desc;
```

4. Follow-up: Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these fields, segment product_count_2020 product_count_2021 difference

Solution:-

```
with sf as

(

 select  p.product_code,p.segment,f.fiscal_year from dim_product as p

 join fact_sales_monthly as f on p.product_code=f.product_code

)

select segment,

 count(distinct case when fiscal_year ='2020' then product_code end)as
product_count_2020,

 count(distinct case when fiscal_year ='2021' then product_code end)as
product_count_2021,

 count(distinct case when fiscal_year = '2021' then product_code end) -
```

```
 count(distinct case when fiscal_year = '2020' then product_code end) as difference
 from sf group by segment order by difference desc;
```

5 . Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields, product_code product manufacturing_cost

Solution:-

```
select m.product_code,p.product,m.manufacturing_cost
from fact_manufacturing_cost as m join dim_product as p on
m.product_code=p.product_code
where m.manufacturing_cost=
 (select min(manufacturing_cost) from fact_manufacturing_cost) or
  m.manufacturing_cost=(select max(manufacturing_cost)from fact_manufacturing_cost)
order by manufacturing_cost DESC;
```

6 Generate a report which contains the top 5 customers who received an average high pre_invoice_discount_pct for the fiscal year 2021 and in the Indian market. The final output contains these fields, customer_code customer average_discount_percentage

Solution:-

```
with piv as
(
 select f.fiscal_year,f.pre_invoice_discount_pct,f.customer_code,c.customer,c.market from
fact_pre_invoice_deductions f join dim_customer c on f.customer_code=c.customer_code
 where fiscal_year='2021' and market='India'
 ),
avg1 as
(
 select customer_code,customer,round(avg(pre_invoice_discount_pct),2) as
average_discount_percentage
 from piv
```

```
 group by customer_code,customer

 )

select

customer_code,customer,average_discount_percentage

from avg1

order by  average_discount_percentage desc limit 5;
```

7 .Get the complete report of the Gross sales amount for the customer “Atliq Exclusive” for each month. This analysis helps to get an idea of low and high-performing months and take strategic decisions. The final report contains these columns: Month Year Gross sales Amount

Solution:-

```
select DATE_FORMAT( f.date, '%M (%Y)' ) as Month,f.fiscal_year as year
,round(sum(gross_price*sold_quantity),2) as  `Gross sales Amount`

from fact_sales_monthly f join dim_customer  c on f.customer_code=c.customer_code

join fact_gross_price p on f.product_code=p.product_code and  f.fiscal_year=p.fiscal_year

where c.customer="Atliq Exclusive"

group by f.fiscal_year,Month

order by f.fiscal_year   ;
```

8. In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by the total_sold_quantity, Quarter total_sold_quantity

Solution:-

```
 select

 get_quarter(f.date) AS Quarter,

round(sum(sold_quantity), 2) as `total sold quantity`

from fact_sales_monthly f join dim_customer c on f.customer_code = c.customer_code

join fact_gross_price p on f.product_code = p.product_code and f.fiscal_year = p.fiscal_year

where f.fiscal_year='2020'

group by QUARTER

order by Quarter;
```

9. Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution? The final output contains these fields, channel gross_sales_mln percentage

Solution:-

```
with channel_sales as
(
select c.channel,Round(sum(sold_quantity*gross_price)/1000000,2) as gross_sales_mln
from dim_customer c join fact_sales_monthly fs
on c.customer_code=fs.customer_code
join fact_gross_price gp  on fs.product_code=gp.product_code and
year(fs.date)=gp.fiscal_year
where year(fs.date)=2021
group by channel
),
sales as
(
select sum(gross_sales_mln) as total_sales from channel_sales
)

select cs.channel,
concat(cs.gross_sales_mln,'M') as gross_sales_mln,
concat(round((gross_sales_mln *100.0)/ ts.total_sales,2), '%') as percentage
from channel_sales as cs
cross join sales as ts
order by cs.gross_sales_mln desc;
```

10. Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields, division product_code codebasics.io product total_sold_quantity rank_order

Solution:-

```
WITH sales_quantity as
(
select p.product_code,p.division,p.product, round(sum(sold_quantity*gross_price),2) as total_sold_quantity  from fact_gross_price fp join fact_sales_monthly fs on fp.product_code=fs.product_code
join dim_product p on  fs.product_code=p.product_code
where fs.fiscal_year='2021'
group by p.product_code,p.division,p.product
),
sales_rank as
(
select  *, dense_rank() over( partition by  division order by total_sold_quantity desc ) as rank_order
from sales_quantity
)
select * from sales_rank where rank_order<= 3;
```