CONSUMER GOODS
AD-HOC INSIGHTS

- Presented by VINEETH

Background

Atliq Hardware, a fictional corporation, one of the major computer hardware manufacturers in India and has a robust global presence.

Problem Statement

- Despite its prominence, the management recognizes a need for more timely and informed decisions backed by data insights.
- The organization is strategically focused on strengthening the data analytics team through the recruitment of junior data analysts.
- In order to assess potential candidates thoroughly, the Director of Data Analytics is arranging a SQL challenge.
- The company has pinpointed 10 specific AD-HOC requests, and they are actively seeking valuable insights to address these queries effectively.

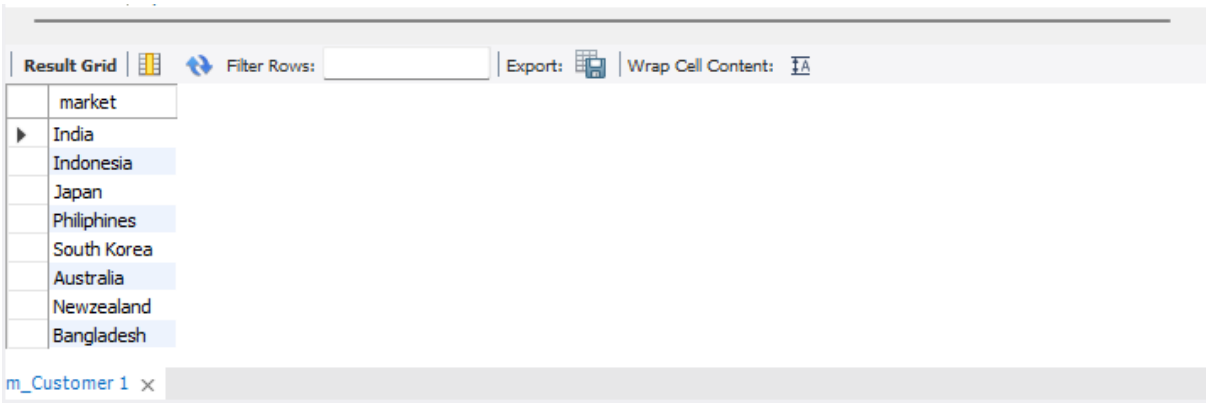
Objective

As a Junior Data Analyst, my main objective is to effectively address ten AD-HOC requests from the business by transforming these inquiries into actionable insights. This requires thorough exploration of the data, extraction of pertinent information, and delivery of solutions that are in harmony with the strategic goals of the organization.

Consumer Goods Ad-hoc-Insights

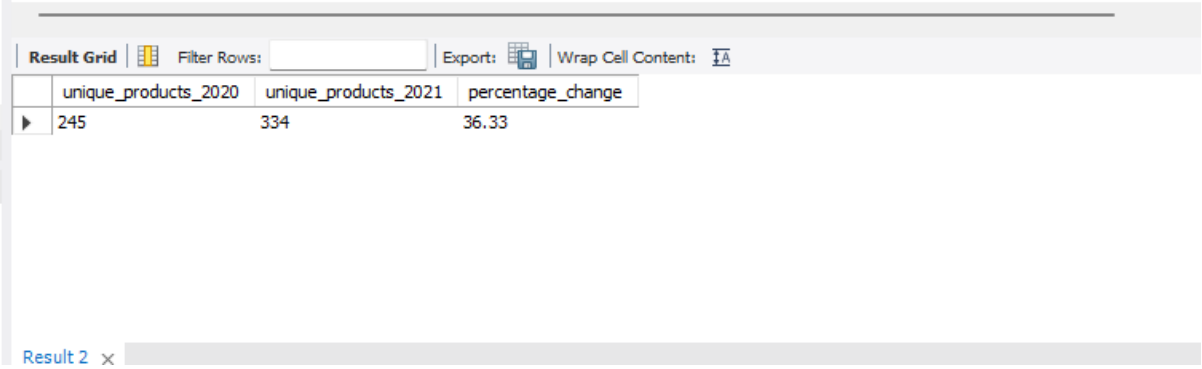
Q1 Provide the list of markets in which customer "Atliq Exclusive" operated its business in the APAC region.

```
SELECT distinct market
FROM dim_Customer
WHERE customer = "Atliq Exclusive" and region = "APAC".
```



Q2 What is percentage of unique product increase in 2021 vs 2020 ? The final output should contain these field unique_products2020, unique_products_2021, percentage-change.

```
with ProductCounts2020 as (
        SELECT count(distinct product_code) as unique_products_2020
        FROM fact_sales_monthly
        WHERE fiscal_year = 2020 ),
    ProductCounts2021 as (
        SELECT count(distinct product_code) as unique_products_2021
        FROM fact_sales_monthly WHERE fiscal_year = 2021
)
SELECT unique_products_2020, unique_products_2021,
    round(((unique_products_2021-
    unique_products_2020)/unique_products_2020)*100,2) as percentage_change
FROM ProductCounts2020, ProductCounts2021;
```



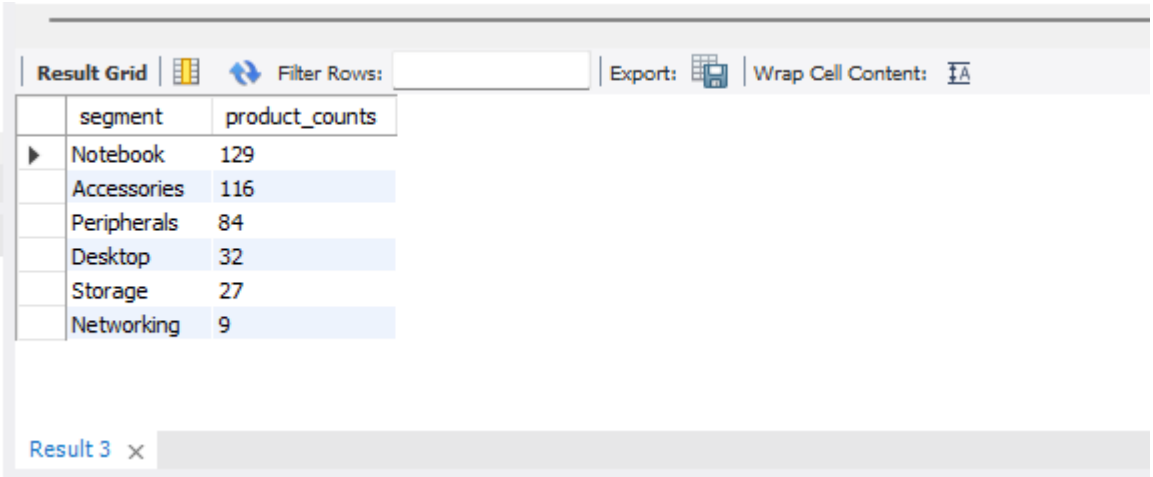
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

unique_products_2020	unique_products_2021	percentage_change
245	334	36.33

Result 2

Q3 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 segments, product_counts.

```
SELECT  segment,count(distinct product_code) as product_counts

FROM dim_product

GROUP BY segment

ORDER BY product_counts DESC;
```



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

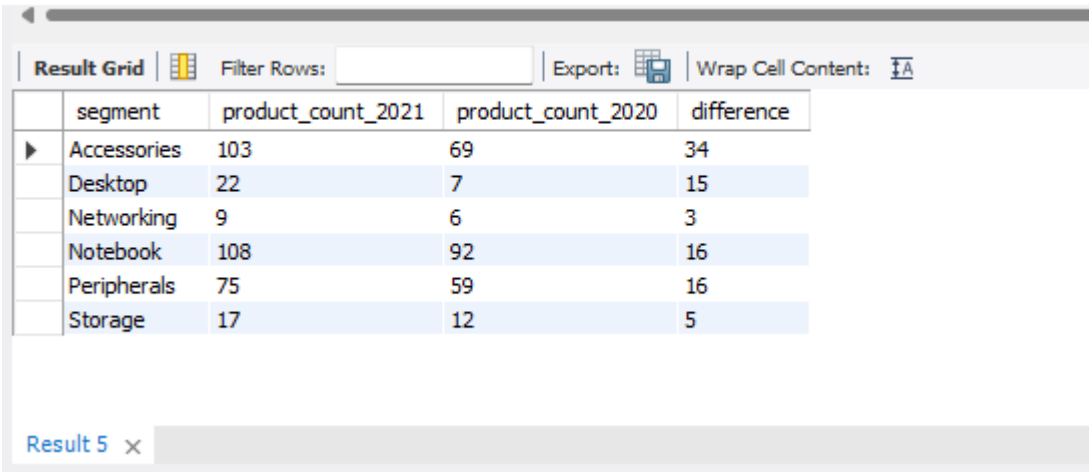
segment	product_counts
Notebook	129
Accessories	116
Peripherals	84
Desktop	32
Storage	27
Networking	9

Result 3

#Q4 which segment had the most increase in unique products in 2021 vs 2020 ? The output contains these fields, segment, product_counts_2020, product_counts_2021, difference.

```
with product_count_2021 as (

select segment, count(distinct s.product_code) as product_count_2021

from dim_product p

join fact_sales_monthly s

on p.product_code = s.product_code
```

```
        where fiscal_year = 2021
        group by 1),
product_count_2020 as (
        select segment, count(distinct s.product_code) as product_count_2020
        from dim_product p
        join fact_sales_monthly s
        on  p.product_code= s.product_code
        where fiscal_year = 2020
        group by 1)
select
        p21.segment, product_count_2021, product_count_2020 , (product_count_2021 -
        product_count_2020) as difference
from product_count_2021 p21
join product_count_2020 p20
on p21.segment = p20.segment;
```

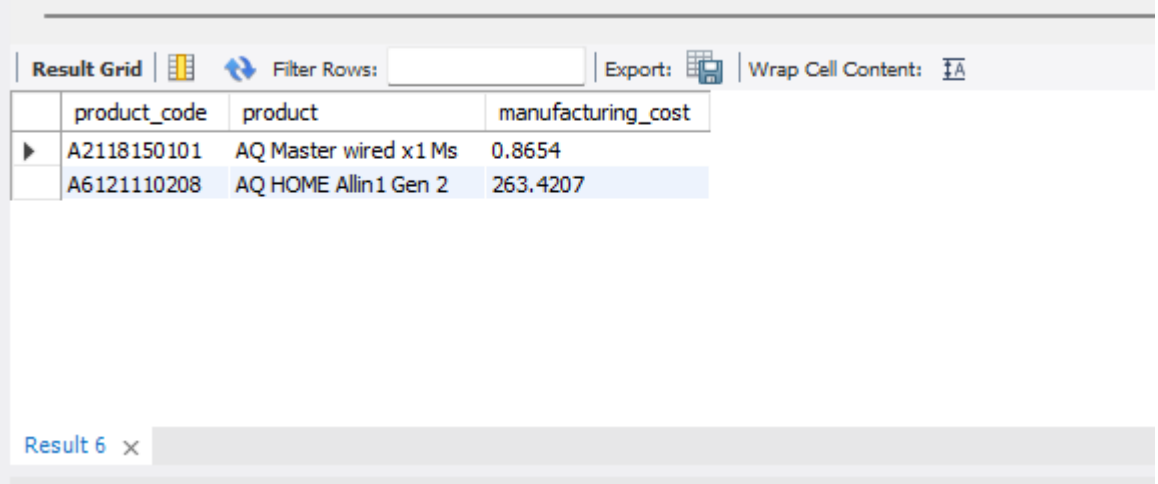


segment	product_count_2021	product_count_2020	difference
Accessories	103	69	34
Desktop	22	7	15
Networking	9	6	3
Notebook	108	92	16
Peripherals	75	59	16
Storage	17	12	5

#Q5 Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields, product_code, product, manufacturing_cost.

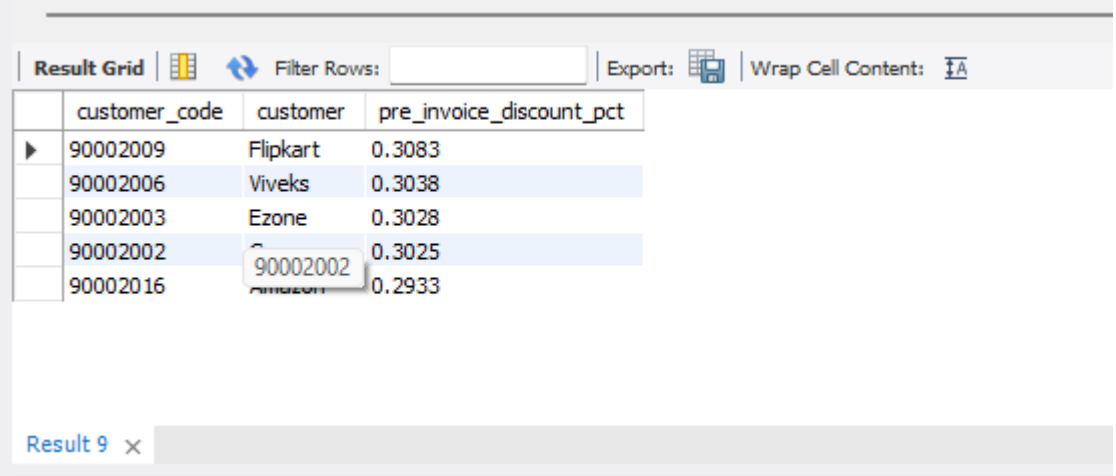
```
select mc.product_code, product, manufacturing_cost
from fact_manufacturing_cost mc
join dim_product p
```

```
on p.product_code = mc.product_code
where manufacturing_cost in (
        (select min(manufacturing_cost) from fact_manufacturing_cost),
        ( select max(manufacturing_cost) from fact_manufacturing_cost));
```



Q6 generate a report which contains the top 5 customers who recieved a 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.

```
select pi.customer_code, c.customer,  pi.pre_invoice_discount_pct
from dim_customer c
join fact_pre_invoice_deductions pi
on  c.customer_code = pi.customer_code
where  fiscal_year = 2021 and market = "india" and
        pre_invoice_discount_pct > (
                        select avg(pre_invoice_discount_pct)
                        from fact_pre_invoice_deductions )
order by pre_invoice_discount_pct desc
limit 5 ;
```



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

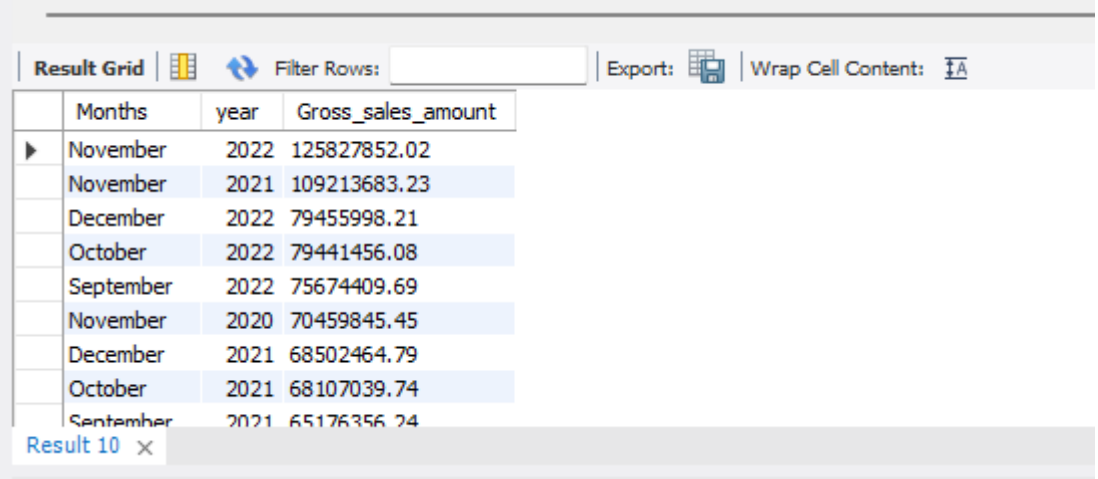
customer_code	customer	pre_invoice_discount_pct
90002009	Flipkart	0.3083
90002006	Viveks	0.3038
90002003	Ezone	0.3028
90002002	[illegible]	0.3025
90002016	[illegible]	0.2933

90002002

Result 9

Q7 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 outputs, Month , Year, Gross sales Amount.

```
select
    monthname(date) as Months, gp.fiscal_year as year, round(sum(gross_price *
    sold_quantity),2) as Gross_sales_amount from fact_sales_monthly s
join dim_customer c on s.customer_code = c.customer_code
join fact_gross_price gp on s.product_code = gp.product_code
where customer = "Atliq Exclusive"
group by 2,1
order by 3 desc;
```



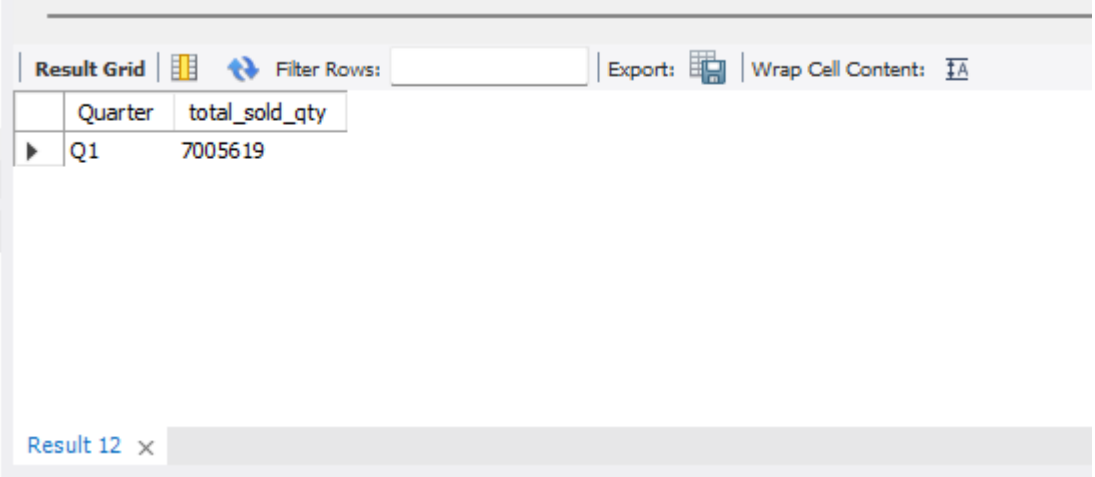
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Months	year	Gross_sales_amount
November	2022	125827852.02
November	2021	109213683.23
December	2022	79455998.21
October	2022	79441456.08
September	2022	75674409.69
November	2020	70459845.45
December	2021	68502464.79
October	2021	68107039.74
September	2021	65176356.24

Result 10

Q8 In which Quarter of 2020, got the maximum total_sold_quantity ?

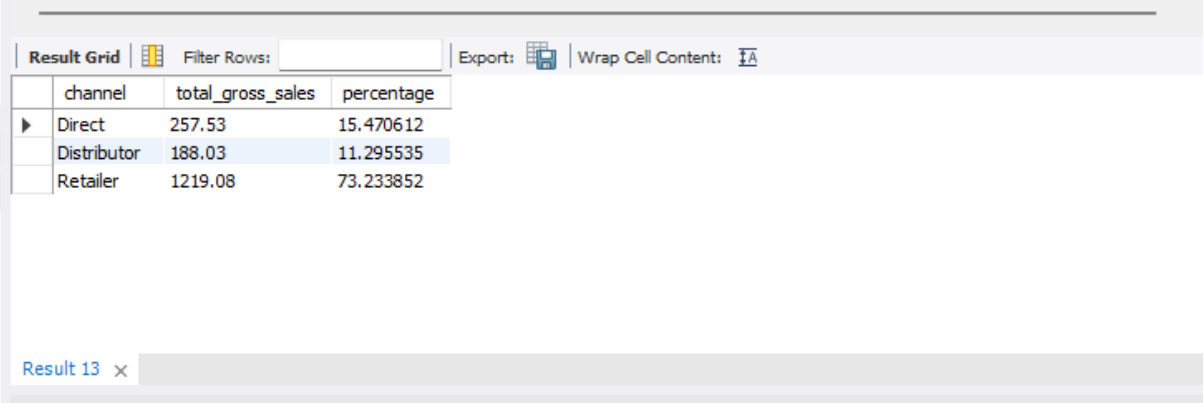
```
Select
        concat("Q",ceil(month(date_add(date, interval 4 month))/3)) as Quarter,
        sum(sold_quantity) as total_sold_qty
from fact_sales_monthly
where fiscal_year= "2020"
group by 1
order by total_sold_qty desc
limit  1;
```



Q9 which channel helped to bring more gross sales in the year fiscal year 2021 and the percentage of contribution ? The output contains and these fields, channel, gross_sales_mln, percentage.

```
with sales as (
        select   c.channel, round((sum(gp.gross_price*s.sold_quantity)/1000000),2) as
        total_gross_sales
        from fact_gross_price gp
        join fact_sales_monthly s
        on s.fiscal_year = gp.fiscal_year and s.product_code = gp.product_code
        join dim_customer c
        on c.customer_code = s.customer_codewhere s.fiscal_year = 2021
   group by channel )
```

```
select
    channel, total_gross_sales, (total_gross_sales *100 /sum(total_gross_sales) over() )
    as percentage  from sales;
```



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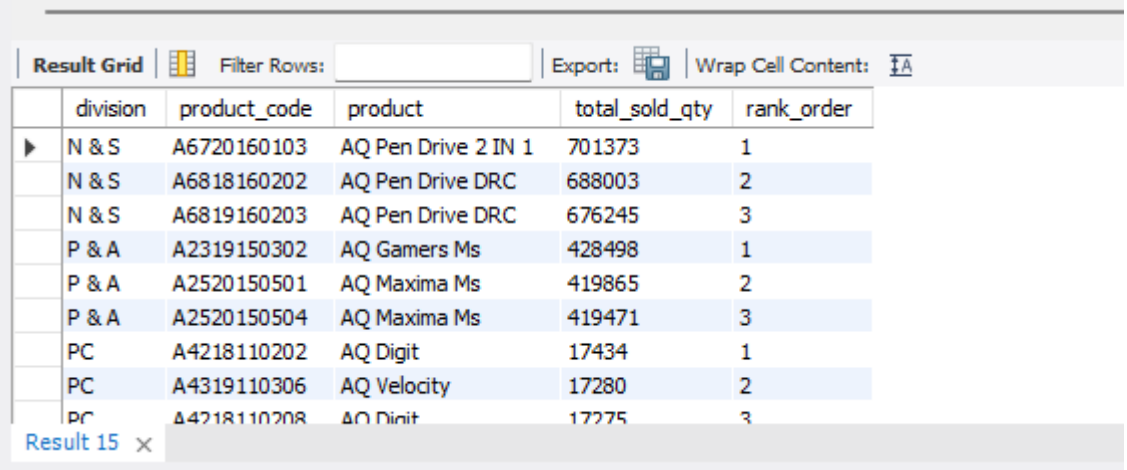
channel	total_gross_sales	percentage
Direct	257.53	15.470612
Distributor	188.03	11.295535
Retailer	1219.08	73.233852

Result 13

Q10 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, total_sold_qty, rank_order

```
with top_products as (

select division, p.product_code, product, sum(sold_quantity ) as total_sold_qty

from dim_product p

join fact_sales_monthly s on p.product_code = s.product_code

where s.fiscal_year = 2021

group by 1,2,3 ),

 all_rank as (

select *, dense_rank() over(partition by division order by total_sold_qty desc) as rank_order
from top_products)

select * from all_rank where rank_order < 4
```



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

division	product_code	product	total_sold_qty	rank_order
N & S	A6720160103	AQ Pen Drive 2 IN 1	701373	1
N & S	A6818160202	AQ Pen Drive DRC	688003	2
N & S	A6819160203	AQ Pen Drive DRC	676245	3
P & A	A2319150302	AQ Gamers Ms	428498	1
P & A	A2520150501	AQ Maxima Ms	419865	2
P & A	A2520150504	AQ Maxima Ms	419471	3
PC	A4218110202	AQ Digit	17434	1
PC	A4319110306	AQ Velocity	17280	2
PC	A4218110208	AQ Digit	17275	3

Result 15