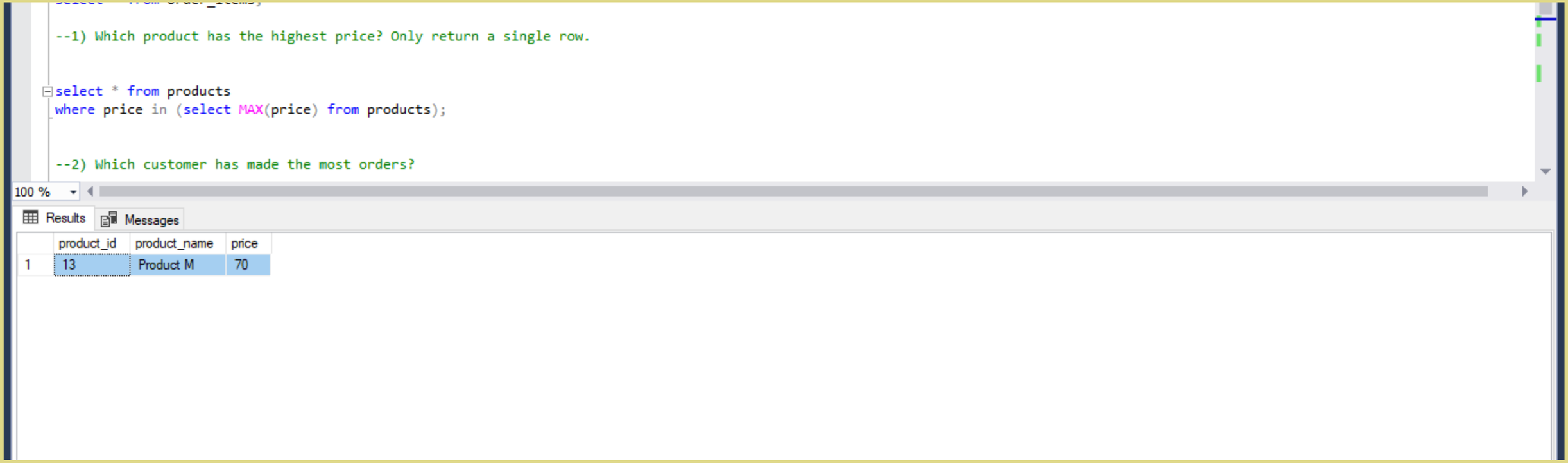
SQL CASE STUDY

DATA IN MOTION
TINY SHOP SALES

Assignments Question and it's output



```
--1) Which product has the highest price? Only return a single row.


select * from products
where price in (select MAX(price) from products);


--2) Which customer has made the most orders?
```

100 %

Results | Messages

	product_id	product_name	price
1	13	Product M	70

```sql
--2) Which customer has made the most orders?

select a.customer_id,COUNT(*) as No_of_orders,concat(b.first_name,' ',b.last_name) as Customer_name from orders a
inner join customers b on
a.customer_id=b.customer_id
group by a.customer_id,b.customer_id,b.first_name,b.last_name
having COUNT(*)>1;

--3) What's the total revenue per product?
```

Results | Messages

customer_id	No_of_orders	Customer_name
1	2	John Doe
2	2	Jane Smith
3	2	Bob Johnson

```sql
--2) Which customer has made the most orders?

select a.customer_id,COUNT(*) as No_of_orders,concat(b.first_name,' ',b.last_name) as Customer_name from orders a
inner join customers b on
a.customer_id=b.customer_id
group by a.customer_id,b.customer_id,b.first_name,b.last_name
having COUNT(*)>1;

--3) What's the total revenue per product?


with cte as (select P.*, O.order_id,O.quantity, price*quantity as Total from products P inner join order_items O
on P.product_id=O.product_id)
select product_id,product_name,SUM(Total) as Total_revenue_per_product
from cte
group by product_id,product_name
order by Total_revenue_per_product desc;
```

100 %

Results | Messages

	product_id	product_name	Total_revenue_per_product
1	13	Product M	420
2	10	Product J	330
3	6	Product F	210
4	12	Product L	195
5	11	Product K	180
6	3	Product C	160
7	9	Product I	150
8	2	Product B	135
9	8	Product H	135
10	7	Product G	120
11	5	Product E	90
12	4	Product D	75
13	1	Product A	50

```sql
--4) Find the day with the highest revenue.

with cte as (
select P.*, OI.order_id,OI.quantity, O.order_date, price*quantity as Total from products P
inner join order_items OI
on P.product_id=OI.product_id
inner join orders O
on O.order_id=OI.order_id)
select order_date, SUM(Total) as Highest_revnue_per_day
from cte
group by order_date
order by Highest_revnue_per_day desc;
```

100 %

Results | Messages

	order_date	Highest_revnue_per_day
1	2023-05-16	340
2	2023-05-10	285
3	2023-05-11	275
4	2023-05-15	225
5	2023-05-13	185
6	2023-05-14	145
7	2023-05-08	145
8	2023-05-09	140
9	2023-05-07	85
10	2023-05-12	80
11	2023-05-04	80
12	2023-05-02	75
13	2023-05-06	55
14	2023-05-03	50

```sql
--5) Find the first order (by date) for each customer.


select distinct(a.customer_id),concat(b.first_name,' ',b.last_name) as Customer_name,min(a.order_date) as first_order_date from orders a
inner join customers b on
a.customer_id=b.customer_id
group by a.customer_id,b.first_name,b.last_name;

--6) Find the top 3 customers who have ordered the most distinct products

select concat(C.first_name,' ',C.last_name) as Customer_name, count(distinct P.product_name) as Uniqueproduct from order_items OI
```

Results | Messages

customer_id	Customer_name	first_order_date
1	John Doe	2023-05-01
2	Jane Smith	2023-05-02
3	Bob Johnson	2023-05-03
4	Alice Brown	2023-05-07
5	Charlie Davis	2023-05-08
6	Eva Fisher	2023-05-09
7	George Harris	2023-05-10
8	Ivy Jones	2023-05-11
9	Kevin Miller	2023-05-12
10	Lily Nelson	2023-05-13
11	Oliver Patterson	2023-05-14
12	Quinn Roberts	2023-05-15
13	Sophia Thomas	2023-05-16

```sql
--6) Find the top 3 customers who have ordered the most distinct products

select concat(C.first_name,' ',C.last_name) as Customer_name, count(distinct P.product_name) as Uniqueproduct from order_items OI
inner join orders O on OI.order_id=O.order_id
inner join customers C on C.customer_id= O.customer_id
inner join products P on P.product_id=OI.product_id
group by C.first_name,C.last_name
order by Uniqueproduct desc;
```

Results | Messages

Customer_name	Uniqueproduct
John Doe	3
Bob Johnson	3
Jane Smith	3
Sophia Thomas	2
Ivy Jones	2
Kevin Miller	2
Lily Nelson	2
Oliver Patterson	2
Quinn Roberts	2
Eva Fisher	2
George Harris	2
Alice Brown	2
Charlie Davis	2

```sql
--7) Which product has been bought the least in terms of quantity?

with cte as (select P.*, O.order_id,O.quantity from products P inner join order_items O
on P.product_id=O.product_id)
select product_id,product_name,SUM(quantity) as Total_no_of_quantity
from cte
group by product_id,product_name
order by Total_no_of_quantity;

--8) What is the median order total?
```

100 %

Results | Messages

	product_id	product_name	Total_no_of_quantity
1	4	Product D	3
2	5	Product E	3
3	7	Product G	3
4	8	Product H	3
5	9	Product I	3
6	11	Product K	3
7	12	Product L	3
8	1	Product A	5
9	6	Product F	6
10	10	Product J	6
11	13	Product M	6
12	3	Product C	8
13	2	Product B	9

```sql
--8) What is the median order total?


with cte as (select O.order_id, SUM( price*quantity) as Total from orders O inner join order_items OI
on  O.order_id=OI.order_id
inner join products P on OI.product_id=P.product_id
group by O.order_id)
select PERCENTILE_CONT(0.5)
within group (order by Total) over () as Median_price
from cte;
```

100 %

Results | Messages

	Median_price
1	112.5
2	112.5
3	112.5
4	112.5
5	112.5
6	112.5
7	112.5
8	112.5
9	112.5
10	112.5
11	112.5
12	112.5
13	112.5
14	112.5
15	112.5
16	112.5

```sql
--9) For each order, determine if it was ‘Expensive’ (total over 300), ‘Affordable’ (total over 100), or ‘Cheap’.


with cte as (
select P.*, OI.order_id,OI.quantity, O.order_date, price*quantity as Total from products P
inner join order_items OI
on P.product_id=OI.product_id
inner join orders O
on O.order_id=OI.order_id)
, cte1 as (select order_id, SUM(Total) as Total_amt
from cte
group by order_id)
select order_id, Total_amt,
case when Total_amt > 300 then 'Expensive'
    when Total_amt > 100 then 'Affordable'
    else 'Cheap' end as Rate_flag
    from cte1
    order by Total_amt desc;
```

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Results | Messages

	order_id	Total_amt	Rate_flag
1	16	340	Expensive
2	10	285	Affordable
3	11	275	Affordable
4	15	225	Affordable
5	13	185	Affordable
6	14	145	Affordable
7	8	145	Affordable
8	9	140	Affordable
9	7	85	Cheap

```sql
--10) Find customers who have ordered the product with the highest price.


with cte as (
select P.*, OI.order_id,OI.quantity, O.order_date, price*quantity as Total,c.customer_id,concat(c.first_name,' ',c.last_name) as Customer_name from products P
inner join order_items OI
on P.product_id=OI.product_id
inner join orders O
on O.order_id=OI.order_id
inner join customers C
on O.customer_id=C.customer_id)
select top 2 customer_id,customer_name,product_name, count(quantity) as quantity,price as highest_price
from cte
group by customer_id,customer_name,product_name,price
order by highest_price desc;
```

100 %

Results | Messages

	customer_id	customer_name	product_name	quantity	highest_price
1	8	Ivy Jones	Product M	1	70
2	13	Sophia Thomas	Product M	1	70