



SQL PROJECT

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```
mysql> CREATE TABLE Transactions
-> (
-> buyer_id int ,
-> purchase_time Date,
-> refund_time Date,
-> store_id text NOT NULL,
-> item_id varchar(25) NOT NULL,
-> gross_transaction_value float NOT NULL
-> );
```

Query OK, 0 rows affected (0.05 sec)

buyer_id	purchase_time	refund_time	store_id	item_id	gross_transaction_value
3	2019-09-19	NULL	a	a1	58
12	2019-12-10	2019-12-15	b	b2	475
3	2020-09-01	2020-09-02	f	f9	33
2	2020-04-30	NULL	d	d3	50
1	2020-10-22	NULL	f	f2	91
8	2020-04-16	NULL	e	e7	24
5	2019-09-23	2019-09-27	g	g5	61

```
mysql> CREATE TABLE items (  
-> store_id text NOT NULL,  
-> item_id varchar(25) PRIMARY KEY,  
-> item_category varchar(25) NOT NULL,  
-> item_name varchar(25) NOT NULL  
-> );
```

Query OK, 0 rows affected (0.05 sec)

```
mysql> select * from items;
```

store_id	item_id	item_category	item_name
a	a1	pants	denim pants
a	a2	tops	blouse
b	b4	earphone	airpods
d	d2	jewelry	bracelet
f	f1	table	coffee table
f	f5	chair	lounge chair
f	f6	chair	armchair

Q-1 What is the count of purchases per month (excluding refunded purchases)?

```
SELECT  
Date(purchase_time),count(gross_transaction_value)  
from transactions group by  
purchase_time,gross_transaction_value  
ORDER BY  
purchase_time,gross_transaction_value  
;
```

Q-2 For each store, what is the shortest interval (in min) from purchase to refund time?

```
ALTER table transactions
ADD COLUMN shortest_interval int AS
(CASE
WHEN refund_time is NULL THEN 'Not requested'
ELSE DATEDIFF(hour, refund_time,purchase_time) as DateDiff
END)
;
```

Q-3 What is the gross_transaction_value of every store's first order?

```
SELECT  
(store_id,sum(gross_transaction_value)  
from transactions  
group by store_id,gross_transaction_value  
order by store_id,gross_transaction_value  
;
```

Q-4 What is the most popular item name that buyers order on their first purchase?

```
SELECT (item_name)
from items
group by store_id,item_name
order by store_id,item_name
;
```

Q-5 Create a flag in the transaction items table indicating whether the refund can be processed or not. The condition for a refund to be processed is that it has to happen within 72 of Purchase time.

```
ALTER TABLE transactions
ADD COLUMN refund VARCHAR(25) AS
(CASE
WHEN refund_time is NULL THEN 'Not requested'
WHEN refund_time < purchase_time THEN "Error"
WHEN DATEDIFF(hour, refund_time, purchase_time) >
72 THEN "too late" ELSE "accepted" END)
;
Select purchase_time, refund_time, DateDiff(hour,
purchase_time, refund_time) as DateDiff, refund from
transactions
;
```


Q-6 Create a rank by buyer_id column in the transaction items table and filter for only the second purchase per buyer.

```
WITH rankings AS  
(SELECT buyer_id,  
purchase_time,  
RANK() OVER(PARTITION BY buyer_id ORDER BY  
purchase_time ASC ) Rank  
FROM transactions)  
ORDER BY  
buyer_id,  
Rank )  
SELECT buyer_id,purchase_time  
FROM rankings  
WHERE Rank = 2  
;
```

Q-7 How will you find the second transaction time per buyer (don't use min/max; assume there were more transactions per buyer in the table)

```
ALTER TABLE  
transactions ADD COLUMN  
rank_id INT AS ( RANK() OVER ( PARTITION BY ID ORDER BY  
ptime ASC ))  
;
```