

- 1) Find the most-bought cryptocurrency and the best-sold cryptocurrency during October 2022. Display the results in a single two-row table

```
with crypto_bought as
(select cryptocurrency_name
from fact_transactions
join dim_crypto_names
using (currency_id)
where transaction_type = 'buy'
group by currency_id
order by sum(number_of_coins) desc
limit 1 ),

crypto_sold as
(select cryptocurrency_name
from fact_transactions
join dim_crypto_names
using (currency_id)
where transaction_type = 'sale'
group by currency_id
order by sum(number_of_coins) desc
limit 1 )

select *, 'Most-bought coin' as status
from crypto_bought
union all
select *, 'Best-sold coin' as status
from crypto_sold;
```

cryptocurrency_name	status
XRP	Most-bought coin
BinanceCoin	Best-sold coin

- 2) Find the first day of overdraft of each user.
(the day on which the account balance becomes negative)

```
with user_history as
(select name, date, initial_dollar_amount,
case when transaction_type = 'buy' then price*number_of_coins
else -price*number_of_coins end money_transfer
from fact_transactions
join dim_crypto_prices
using(currency_id, date)
join dim_users
using (user_id)),

cumulative_money as
(select * ,
SUM(money_transfer) OVER (partition by name ORDER BY date) AS cum_money
from user_history)

select name, min(date) as overdraft_day
from cumulative_money
where cum_money + initial_dollar_amount < 0
group by name;
```

name	overdraft_day
Brianna Hunter	2022-10-01
Cynthia Gomez	2022-10-04
John Sharp	2022-10-01
Lori Morgan	2022-10-02
Melissa Smith	2022-10-05
Michael Harris	2022-10-05

- 3) Find the currency that was bought more than four times in one day and not sold that day.

```
with buy_days as
(select cryptocurrency_name, date, count(currency_id) as buy_count
from fact_transactions
join dim_crypto_names
using (currency_id)
where transaction_type = 'buy'
group by currency_id, date),

sale_days as
(select cryptocurrency_name, date
from fact_transactions
join dim_crypto_names
using (currency_id)
where transaction_type = 'sale')

select cryptocurrency_name, date from buy_days
where buy_count > 6
except
select * from sale_days;
```

cryptocurrency_name	date
Ethereum	2022-10-24