**SQL Case Study 2: Data Bank**



INTRODUCTION

Neo-Banks are a recent development in the financial sector; they are new banks that solely operate online.

I believed that there should be some kind of connection between the digital world, these new age institutions, and cryptocurrencies.

So I made the decision to start a new project called Data Bank!

Customers of Data Bank receive cloud data storage allotments that are directly related to the balances in their accounts. The Data Bank team needs your assistance since this business model comes with some intriguing drawbacks.

This case study focuses on metrics calculations, business growth, and smart data analysis to assist the company more accurately estimate and plan for the future.

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**[LINK](https://drive.google.com/drive/folders/10ELDsgZbwZQxtPdrgieqvC5fKApwWg2C?usp=sharing)**

SCHEMA USED

|  |  |
| --- | --- |
| regions | |
| region\_id | int |
| region\_name | varchar |

|  |  |
| --- | --- |
| customer\_transactions | |
| customer\_id | int |
| txn\_date | date |
| txn\_type | varchar |
| txn\_amount | int |

|  |  |
| --- | --- |
| customer\_nodes | |
| customer\_id | int |
| region\_id | int |
| node\_id | int |
| start\_date | date |
| end\_date | date |

CASE STUDY QUESTIONS

1. **How many different nodes make up the Data Bank network?**

**select count(distinct(node\_id)) as 'Unique\_Nodes' from customer\_nodes;**

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1. **How many nodes are there in each region?**

**select r.region\_name, count(cn.node\_id) as count\_no from customer\_nodes cn inner join regions r on cn.region\_id = r.region\_id group by r.region\_name order by r.region\_name ;**

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1. **How many customers are divided among the regions?**

**select r.region\_name , count(cn.customer\_id ) as count\_no from customer\_nodes cn inner join regions r on cn.region\_id = r.region\_id group by r.region\_name order by count\_no desc;**

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1. **Determine the total amount of transactions for each region name ?**

**select r.region\_name , sum(txn\_amount) as amount from regions r inner join customer\_nodes cn on r.region\_id = cn.region\_id inner join customer\_transactions ct on ct.customer\_id = cn.customer\_id group by r.region\_name order by r.region\_name ;**

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1. **How long does it take on an average to move clients to a new node?**

**select round(avg(datediff(end\_date,start\_date)),2) from customer\_nodes where end\_date != '9999-12-31';**

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1. **What is the unique count and total amount for each transaction type?**

**select txn\_type , count(txn\_type) as No ,sum(txn\_amount) as Total\_Transaction from customer\_transactions group by txn\_type;**

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1. **What is the average number and size of past deposits across all customers?**

**select round(count(customer\_id) / count(distinct(customer\_id)),2)as AVG\_COUNT, concat('$',round(avg(txn\_amount),2)) as AVG\_DEPOSIT from customer\_transactions where txn\_type = 'deposit';**

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1. **For each month - how many Data Bank customers make more than 1 deposit and at least either 1 purchase or 1 withdrawal in a single month?**

**with trans\_cte as ( select monthname(txn\_date) as Months, customer\_id , sum(if(txn\_type = 'deposit',1,0)) as 'Deposit', sum(if(txn\_type = 'withdrawal',1,0)) as 'Withdrawal', sum(if(txn\_type = 'purchase',1,0)) as 'Purchase' from customer\_transactions group by Months,customer\_id)**

**select Months, count(customer\_id) as NO from trans\_cte where Deposit > 1 and (Withdrawal =1 or Purchase =1) group by Months order by Months;**

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