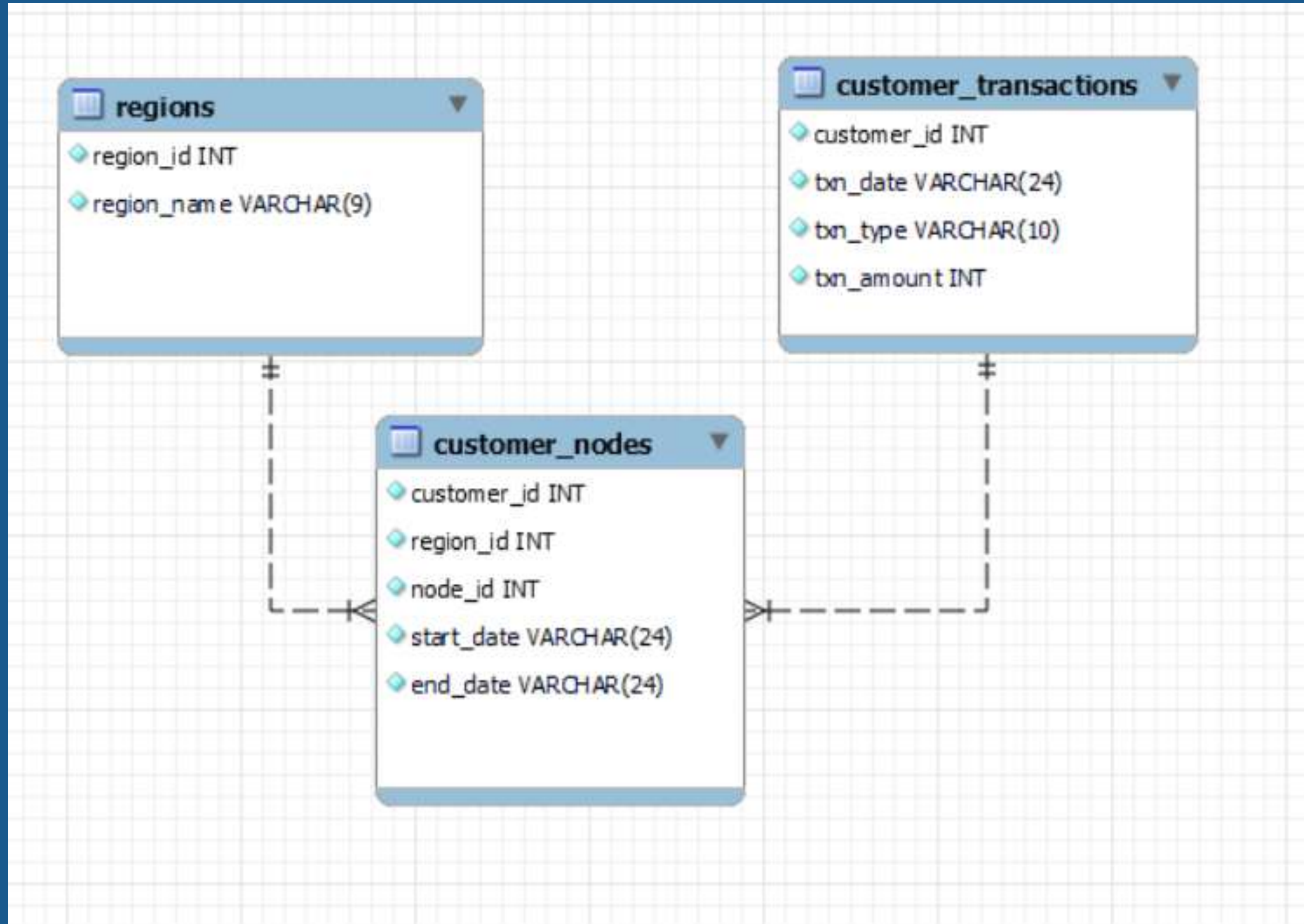# DATA BANK

SQL PROJECT

INTRODUCTION:

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

Given the distinctive nature of this business model, the Data Bank team requires assistance in analyzing key metrics and predicting future trends to support business growth.

This presentation delves into various SQL queries designed to extract valuable insights from the Data Bank database, aiding in strategic decision-making and operational optimization.

DATABASE SCHEMA

CASE STUDY QUESTIONS

1. How many different nodes make up the Data Bank network?
2. How many nodes are there in each region?
3. How many customers are divided among the regions?
4. Determine the total amount of transactions for each region name.
5. How long does it take on an average to move clients to a new node?
6. What is the unique count and total amount for each transaction type?
7. What is the average number and size of past deposits across all customers?
8. 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?

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

```sql
select count(distinct node_id) as 'unique codes' from customer_nodes;
```

unique codes
▶ 5

2. How many nodes are there in each region?

```sql
select region_id  , count(node_id) as 'count no.'from customer_nodes
inner join regions
using (region_id)
group by region_id;
```

region_id	count no.
3	436
5	376
1	478
2	452
4	409

3. How many customers are divided among the regions?

```sql
select region_id, count(distinct customer_id) as 'No.of customers' from customer_nodes
inner join regions
using (region_id)
group by region_id;
```

region_id	No.of customers
1	110
2	105
3	102
4	95
5	88

4. Determine the total amount of transactions for each region name.

```sql
select region_name ,sum(txn_amount) as 'total transaction amt'
from regions,customer_nodes,customer_transactions
where regions.region_id = customer_nodes.region_id and
customer_nodes.customer_id = customer_transactions.customer_id
group by region_name;
```

region_name	total transaction amt
Europe	2063811
Asia	2504715
Africa	2578434
Australia	2825570
America	2690784

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

```sql
select round(avg(datediff(end_date,start_date)),2 )
as avg_days from customer_nodes
where end_date != '9999-12-31';
```

	avg_days
▶	14.82

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

```sql
select txn_type,count(*)  as 'unique_count',
sum(txn_amount) as totalamount
from customer_transactions
group by txn_type;
```

txn_type	unique_count	totalamount
deposit	2671	1359168
withdrawal	1580	793003
purchase	1617	806537

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

```sql
select round(count(customer_id)/ (select count(distinct customer_id)
from customer_transactions)) as average_amount
from customer_transactions
where txn_type = 'deposit';
```

average_amount
5

8. 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?

```sql
with transaction_count_per_month as

(select customer_id,month(txn_date) as txn_month,
sum(if (txn_type = 'deposit',1,0)) as deposit_count,
sum(if(txn_type = 'withdrawal',1,0)) as withdrawl_count,
sum(if(txn_type = 'purchase',1,0)) as purchase_count
from customer_transactions
group by customer_id, month(txn_date))

select txn_month, count( distinct customer_id) as customer_count
from transaction_count_per_month
where deposit_count>1 and withdrawl_count = 1  or purchase_count = 1
group by txn_month;
```

txn_month	customer_count
1	171
2	211
3	203
4	129

Thank You