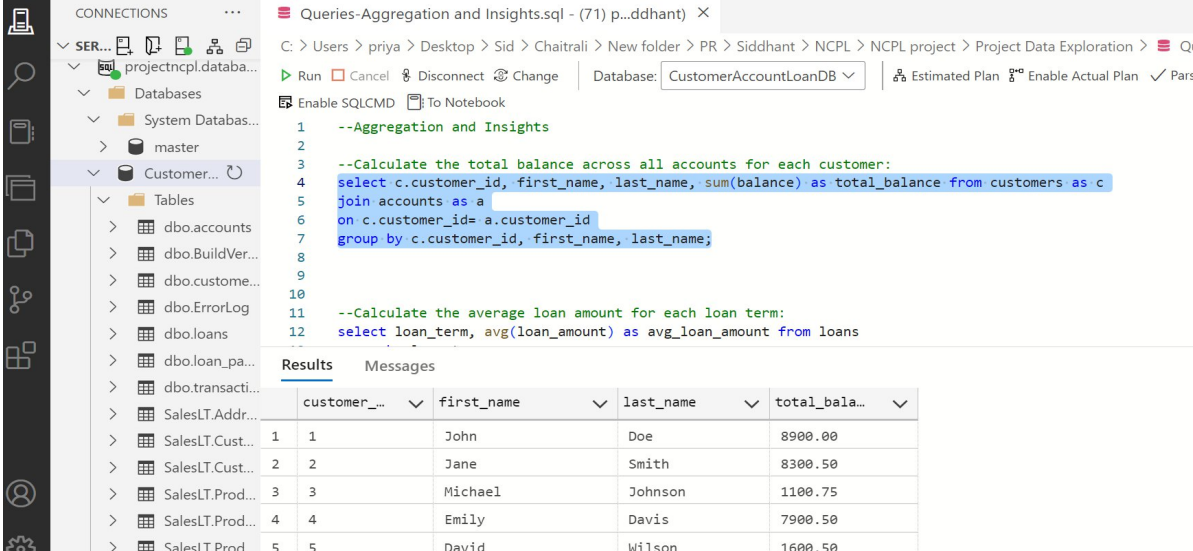


Aggregation and Insights

1. Calculate the total balance across all accounts for each customer:

```
select c.customer_id, first_name, last_name, sum(balance) as total_balance from customers as c
join accounts as a
on c.customer_id= a.customer_id
group by c.customer_id, first_name, last_name;
```



The screenshot shows the SQL Server Enterprise Manager interface. On the left, the 'CONNECTIONS' pane displays the database structure, including 'Customer...' and 'Tables'. The main window shows a query titled 'Queries-Aggregation and Insights.sql - (71) p...ddhant'. The query is as follows:

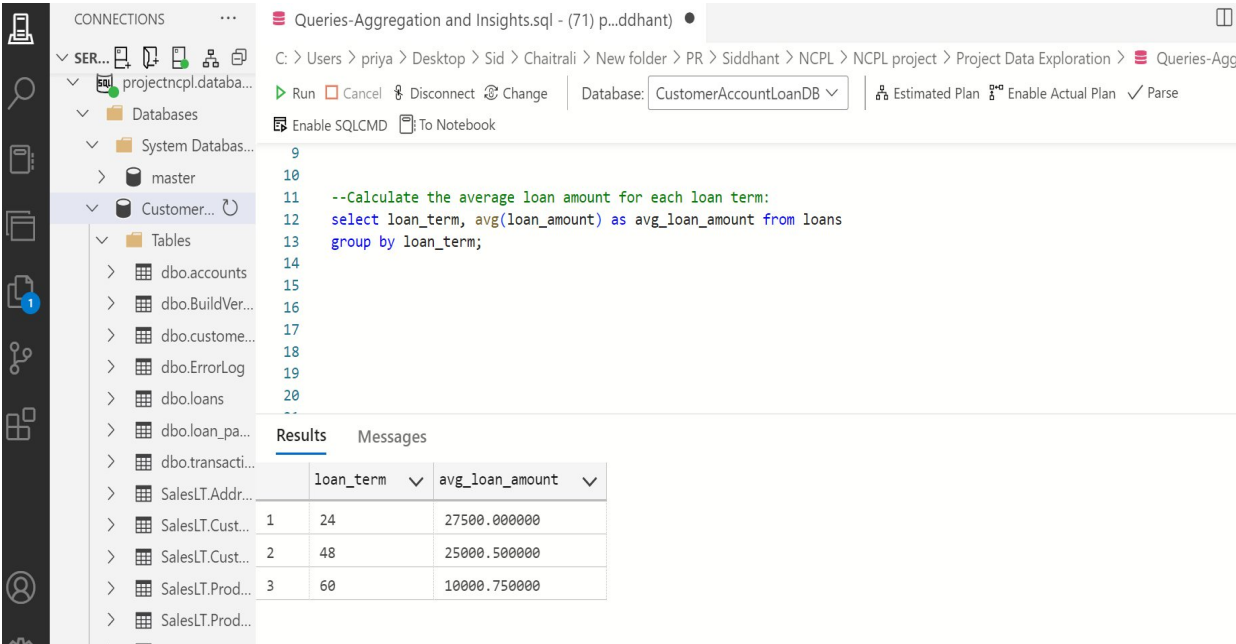
```
--Aggregation and Insights
--Calculate the total balance across all accounts for each customer:
select c.customer_id, first_name, last_name, sum(balance) as total_balance from customers as c
join accounts as a
on c.customer_id= a.customer_id
group by c.customer_id, first_name, last_name;
```

The 'Results' pane shows the output of the query:

	customer_...	first_name	last_name	total_bala...
1	1	John	Doe	8900.00
2	2	Jane	Smith	8300.50
3	3	Michael	Johnson	1100.75
4	4	Emily	Davis	7900.50
5	5	David	Wilson	1600.50

2. Calculate the average loan amount for each loan term:

```
select loan_term, avg(loan_amount) as avg_loan_amount from loans
group by loan_term;
```



The screenshot shows the SQL Server Enterprise Manager interface. On the left, the 'CONNECTIONS' pane displays the database structure, including 'Customer...' and 'Tables'. The main window shows a query titled 'Queries-Aggregation and Insights.sql - (71) p...ddhant'. The query is as follows:

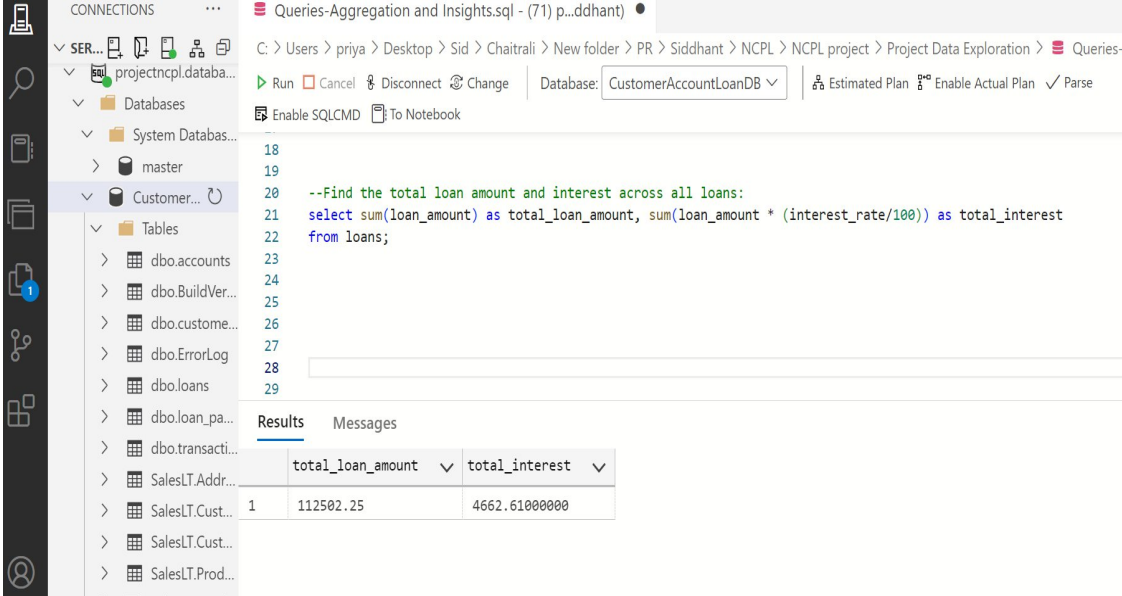
```
--Calculate the average loan amount for each loan term:
select loan_term, avg(loan_amount) as avg_loan_amount from loans
group by loan_term;
```

The 'Results' pane shows the output of the query:

	loan_term	avg_loan_amount
1	24	27500.000000
2	48	25000.500000
3	60	10000.750000

3. Find the total loan amount and interest across all loans:

```
select sum(loan_amount) as total_loan_amount, sum(loan_amount * (interest_rate/100)) as total_interest
from loans;
```



Queries-Aggregation and Insights.sql - (71) p...ddhant

C: > Users > priya > Desktop > Sid > Chaitrali > New folder > PR > Siddhant > NCPL > NCPL project > Project Data Exploration > Queries-

Run Cancel Disconnect Change Database: CustomerAccountLoanDB Estimated Plan Enable Actual Plan Parse

Enable SQLCMD To Notebook

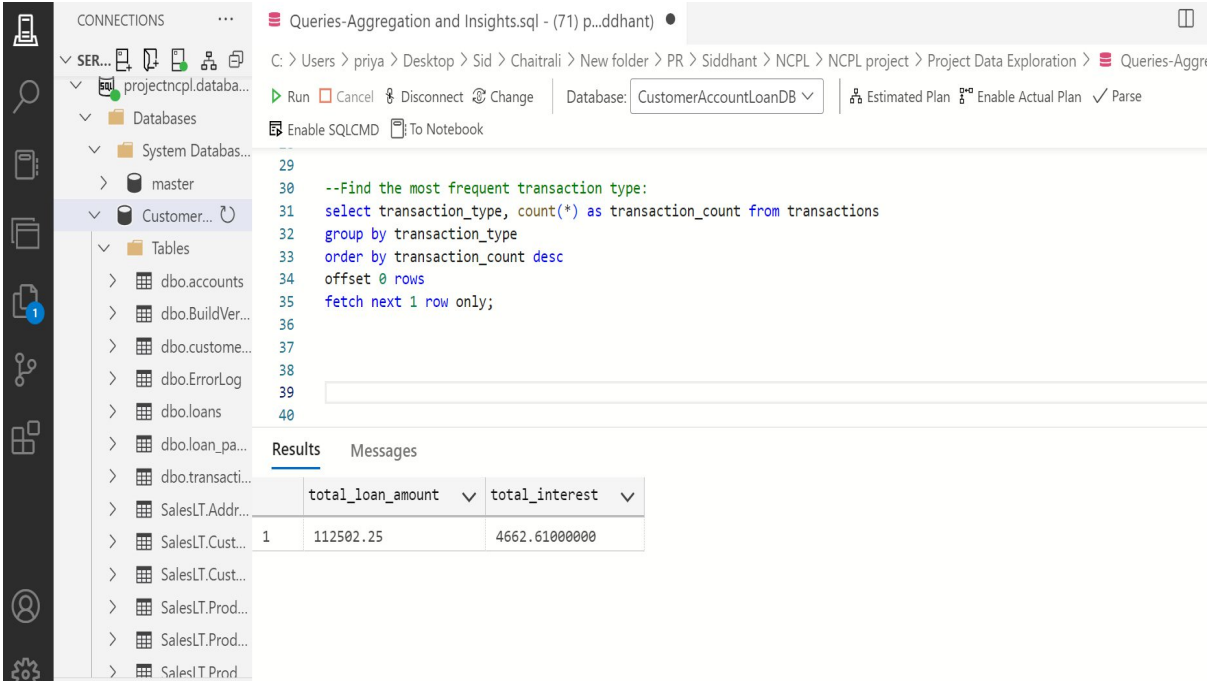
```
18
19
20 --Find the total loan amount and interest across all loans:
21 select sum(loan_amount) as total_loan_amount, sum(loan_amount * (interest_rate/100)) as total_interest
22 from loans;
23
24
25
26
27
28
29
```

Results Messages

	total_loan_amount	total_interest
1	112502.25	4662.61000000

4. Find the most frequent transaction type:

```
select transaction_type, count(*) as transaction_count from transactions
group by transaction_type
order by transaction_count desc
offset 0 rows
fetch next 1 row only;
```



Queries-Aggregation and Insights.sql - (71) p...ddhant

C: > Users > priya > Desktop > Sid > Chaitrali > New folder > PR > Siddhant > NCPL > NCPL project > Project Data Exploration > Queries-Aggr

Run Cancel Disconnect Change Database: CustomerAccountLoanDB Estimated Plan Enable Actual Plan Parse

Enable SQLCMD To Notebook

```
29
30 --Find the most frequent transaction type:
31 select transaction_type, count(*) as transaction_count from transactions
32 group by transaction_type
33 order by transaction_count desc
34 offset 0 rows
35 fetch next 1 row only;
36
37
38
39
40
```

Results Messages

	total_loan_amount	total_interest
1	112502.25	4662.61000000

5. Analyze transactions by account and transaction type:

```
select a.account_id, transaction_type, sum(transaction_amount) as total_amount from accounts as a
inner join transactions as t
on a.account_id = t.account_id
group by a.account_id, transaction_type;
```

The screenshot shows the SQL Server Enterprise Manager interface. On the left, the 'CONNECTIONS' pane displays a tree view of the database structure, including 'Databases', 'System Databases', and 'Customer...'. The 'Tables' folder under 'Customer...' is expanded, showing tables like 'dbo.accounts', 'dbo.BuildVer...', 'dbo.custome...', 'dbo.ErrorLog', 'dbo.loans', 'dbo.loan_pa...', 'dbo.transacti...', 'SalesLT.Addr...', 'SalesLT.Cust...', 'SalesLT.Prod...', and 'SalesLT.Prod...'. The main pane displays a query titled 'Queries-Aggregation and Insights.sql - (71) p...ddhant'. The query is as follows:

```
--Analyze transactions by account and transaction type:
select a.account_id, transaction_type, sum(transaction_amount) as total_amount from accounts as a
inner join transactions as t
on a.account_id = t.account_id
group by a.account_id, transaction_type;
```

Below the query, the 'Results' tab is active, showing a table with 5 rows and 4 columns: 'account_id', 'transaction_type', and 'total_amount'. The data is as follows:

	account_id	transaction_type	total_amount
1	78	Deposit	150.00
2	82	Deposit	150.00
3	88	Deposit	150.00
4	11	Withdrawal	300.25
5	18	Withdrawal	175.00