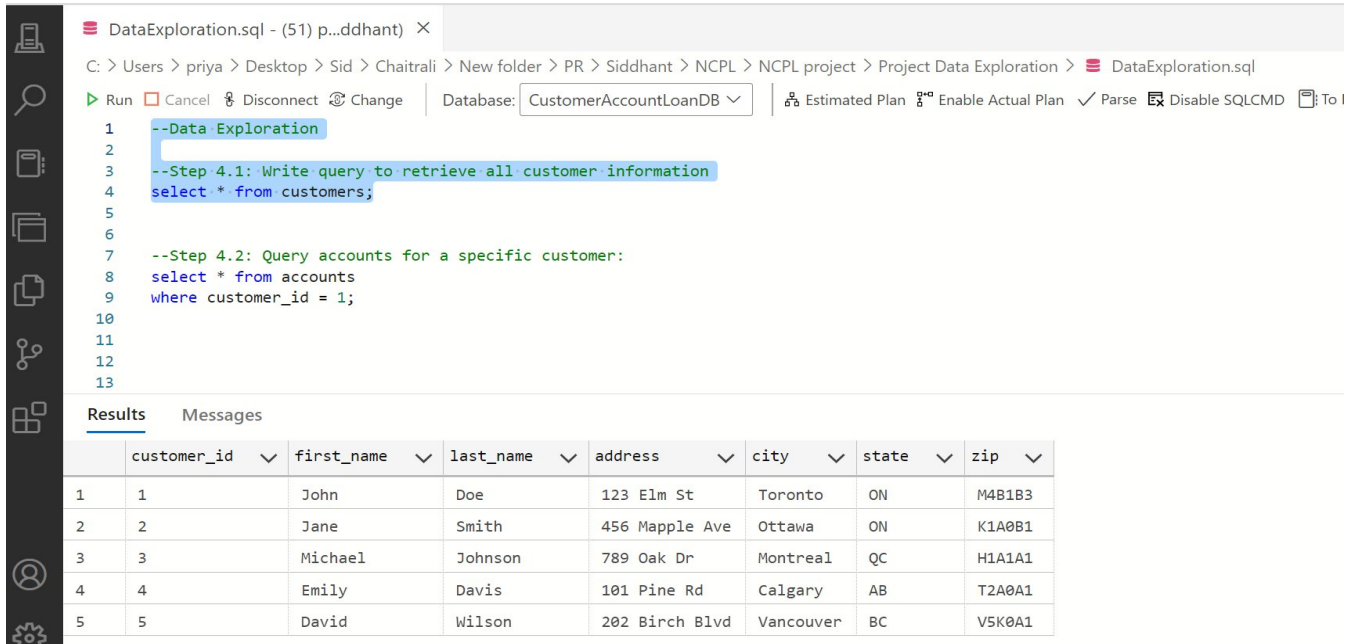


Data Exploration

4.1: Write query to retrieve all customer information:

```
select * from customers;
```



SQL Server Enterprise Manager interface showing the execution of a query in the **CustomerAccountLoanDB** database. The query is:

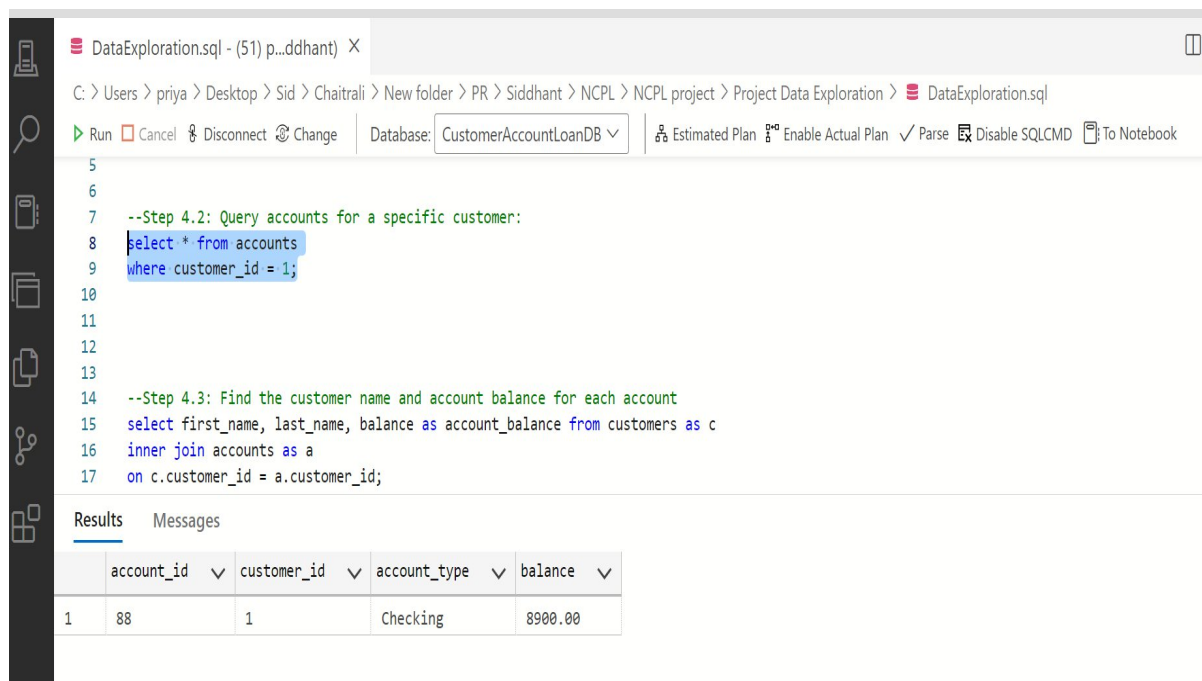
```
--Data Exploration
--Step 4.1: Write query to retrieve all customer information
select * from customers;
```

The **Results** pane displays the following data:

	customer_id	first_name	last_name	address	city	state	zip
1	1	John	Doe	123 Elm St	Toronto	ON	M4B1B3
2	2	Jane	Smith	456 Mapple Ave	Ottawa	ON	K1A0B1
3	3	Michael	Johnson	789 Oak Dr	Montreal	QC	H1A1A1
4	4	Emily	Davis	101 Pine Rd	Calgary	AB	T2A0A1
5	5	David	Wilson	202 Birch Blvd	Vancouver	BC	V5K0A1

4.2: Query accounts for a specific customer:

```
select * from accounts
where customer_id = 1;
```



SQL Server Enterprise Manager interface showing the execution of a query in the **CustomerAccountLoanDB** database. The query is:

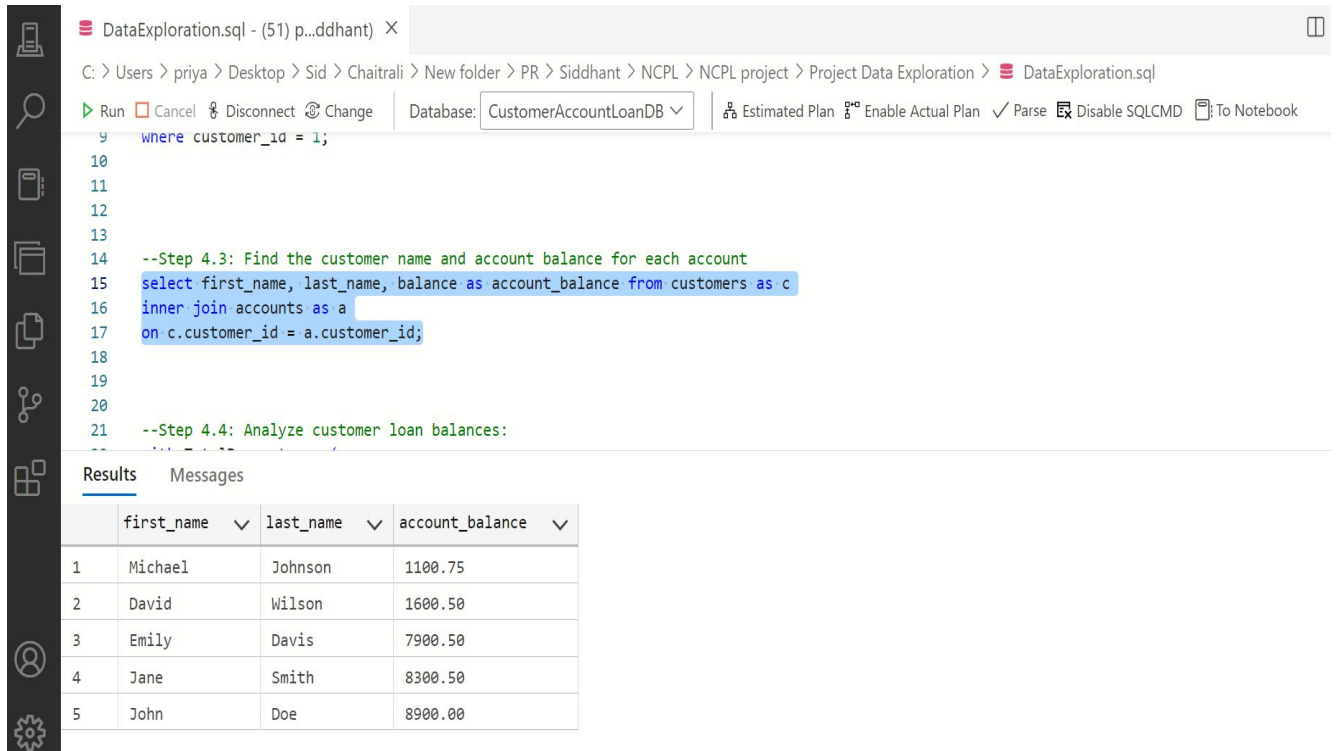
```
--Step 4.2: Query accounts for a specific customer:
select * from accounts
where customer_id = 1;
```

The **Results** pane displays the following data:

	account_id	customer_id	account_type	balance
1	88	1	Checking	8900.00

4.3: Find the customer name and account balance for each account:

```
select first_name, last_name, balance as account_balance from customers as c
inner join accounts as a
on c.customer_id = a.customer_id;
```



The screenshot shows the SQL Server Enterprise Manager interface. The top pane displays a query in the 'DataExploration.sql' file. The query is as follows:

```
--Step 4.3: Find the customer name and account balance for each account
select first_name, last_name, balance as account_balance from customers as c
inner join accounts as a
on c.customer_id = a.customer_id;
```

The bottom pane shows the 'Results' tab, which displays the output of the query as a table with 5 rows and 4 columns: first_name, last_name, account_balance, and an implicit row number column.

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

4.4: Analyze customer loan balances:

```

with TotalPayments as (
    select loan_id, sum(payment_amount) as total_payments from loan_payments
    group by loan_id
)
select l.loan_id, customer_id, loan_amount, interest_rate, loan_term, total_payments,
loan_amount - total_payments as remaining_balance from loans as l
inner join TotalPayments
on l.loan_id = TotalPayments.loan_id
order by l.loan_id;

```

DataExploration.sql - (51) p...ddhant

C: > Users > priya > Desktop > Sid > Chaitrali > New folder > PR > Siddhant > NCPL > NCPL project > Project Data Exploration > DataExploration.sql

Run Cancel Disconnect Change Database: CustomerAccountLoanDB Estimated Plan Enable Actual Plan Parse Disable SQLCMD To Notebook

```

19
20
21 --Step 4.4: Analyze customer loan balances:
22 with TotalPayments as (
23     select loan_id, sum(payment_amount) as total_payments from loan_payments
24     group by loan_id
25 )
26 select l.loan_id, customer_id, loan_amount, interest_rate, loan_term, total_payments,
27 loan_amount - total_payments as remaining_balance from loans as l
28 inner join TotalPayments
29 on l.loan_id = TotalPayments.loan_id
30 order by l.loan_id;
31

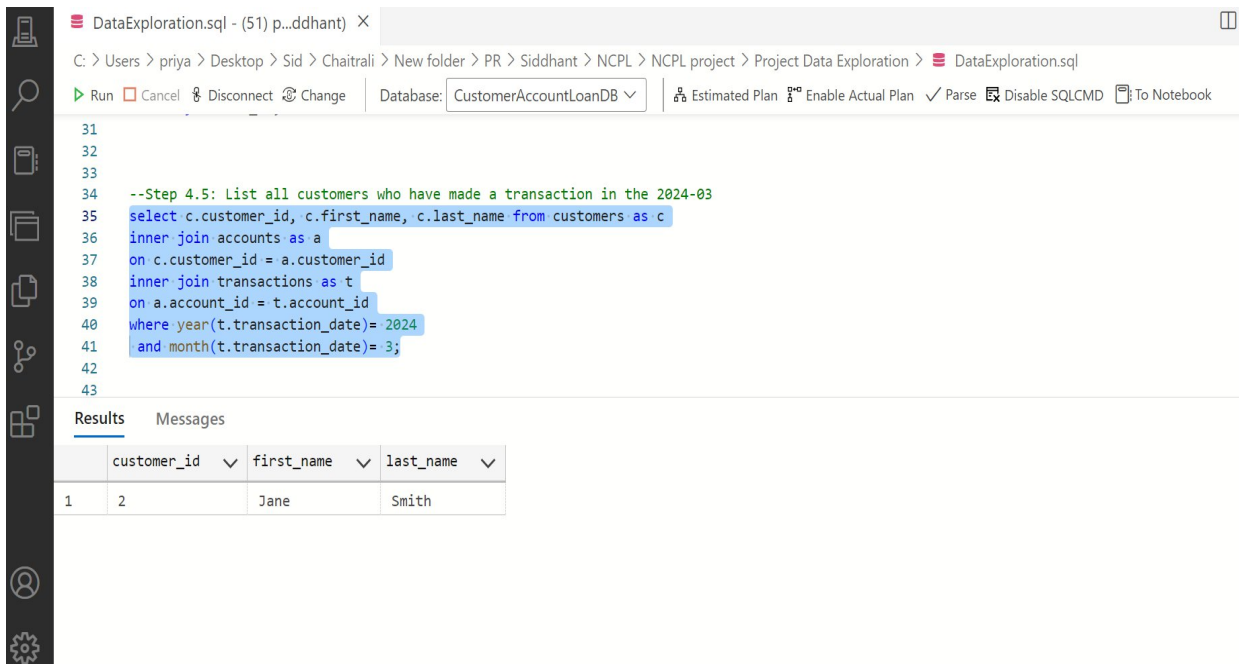
```

Results Messages

	loan_id	customer_id	loan_amount	interest_rate	loan_term	total_payments	remaining_balance
1	11	3	10000.75	6.00	60	550.00	9450.75
2	18	5	27500.50	4.50	48	2400.00	25100.50
3	78	4	27500.50	4.00	48	450.00	27050.50
4	82	2	20000.50	4.50	48	3600.00	16400.50
5	88	1	27500.00	3.00	24	900.00	26600.00

4.5: List all customers who have made a transaction in the 2024-03

```
select c.customer_id, c.first_name, c.last_name from customers as c
inner join accounts as a
on c.customer_id = a.customer_id
inner join transactions as t
on a.account_id = t.account_id
where year(t.transaction_date)= 2024
and month(t.transaction_date)= 3;
```



The screenshot shows the SQL Server Enterprise Manager interface. The top pane displays a query file named 'DataExploration.sql' with the following SQL code:

```
--Step 4.5: List all customers who have made a transaction in the 2024-03
select c.customer_id, c.first_name, c.last_name from customers as c
inner join accounts as a
on c.customer_id = a.customer_id
inner join transactions as t
on a.account_id = t.account_id
where year(t.transaction_date)= 2024
and month(t.transaction_date)= 3;
```

The bottom pane shows the 'Results' tab with a table containing one row of data:

	customer_id	first_name	last_name
1	2	Jane	Smith