**Banking System**

**Task 1:**

(Screenshots are attached with Task 2)

Create database HMBank

1. Creating Customers Table:

Create table customers(

Customer\_id int primary key,

First\_name varchar(20) not null,

Last\_name varchar(20),

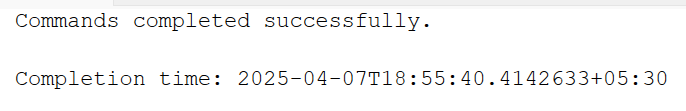
DOB date,

Email varchar(40) not null,

Phone\_number varchar(15) not null,

Address varchar(100)

)



1. Create table accounts

Create table accounts(

Account\_id int primary key,

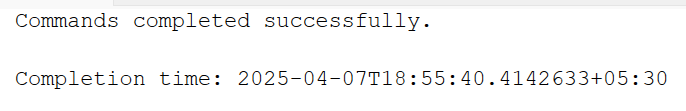
Customer\_id int,

Account\_type varchar(20),

Balance int,

Foreign key(customer\_id) references customers(customer\_id)

)



1. Create table Transactions

Create table transactions(

Transaction\_id int primary key,

Account\_id int,

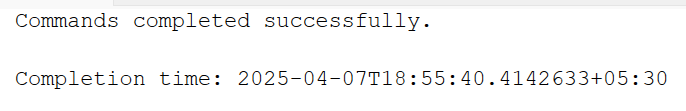
Transaction\_type varchar(20),

Amount int,

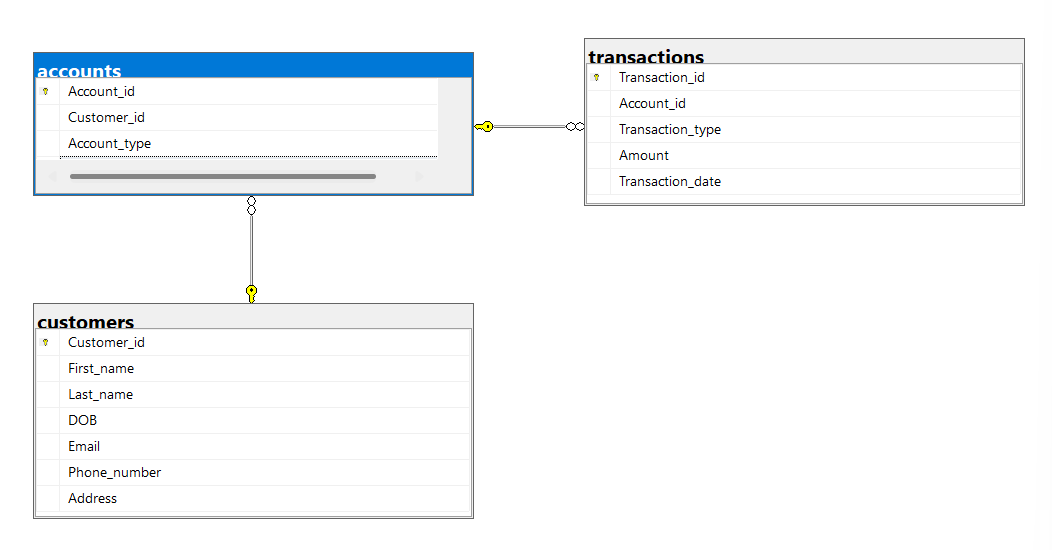
Transaction\_date date,

Foreign key(account\_id) references accounts(account\_id)

)



Entity Relationship Diagram :



**Task 2:**

**1)Inserting into Customers Table:**

INSERT INTO customers VALUES (1001, 'Aakash', 'Gupta', '2003-11-29', 'aakash@gmail.com', 987654321, '21, new street, ramapuram, chennai');

INSERT INTO customers VALUES (1002, 'sai', 'riteshvar', '2003-03-30', 'sai@gmail.com', 9878363728, '10, andavar nagar, villivakkam, Chennai');

INSERT INTO customers VALUES (1003, 'varshini', 'sankar', '2004-08-24', 'varshini@gmail.com', 6373828288, '23, church street, Bangalore');

INSERT INTO customers VALUES (1004, 'Priyanka', 'Mohan', '2003-10-25', 'priyankamohan@gmail.com', 8972627828, '2, st thomas mount, Chennai');

INSERT INTO customers VALUES (1005, 'Maya', 'Krishnan', '2004-12-04', 'mayakrishnan@gmail.com', 7894523567, '21, royapettah, Chennai');

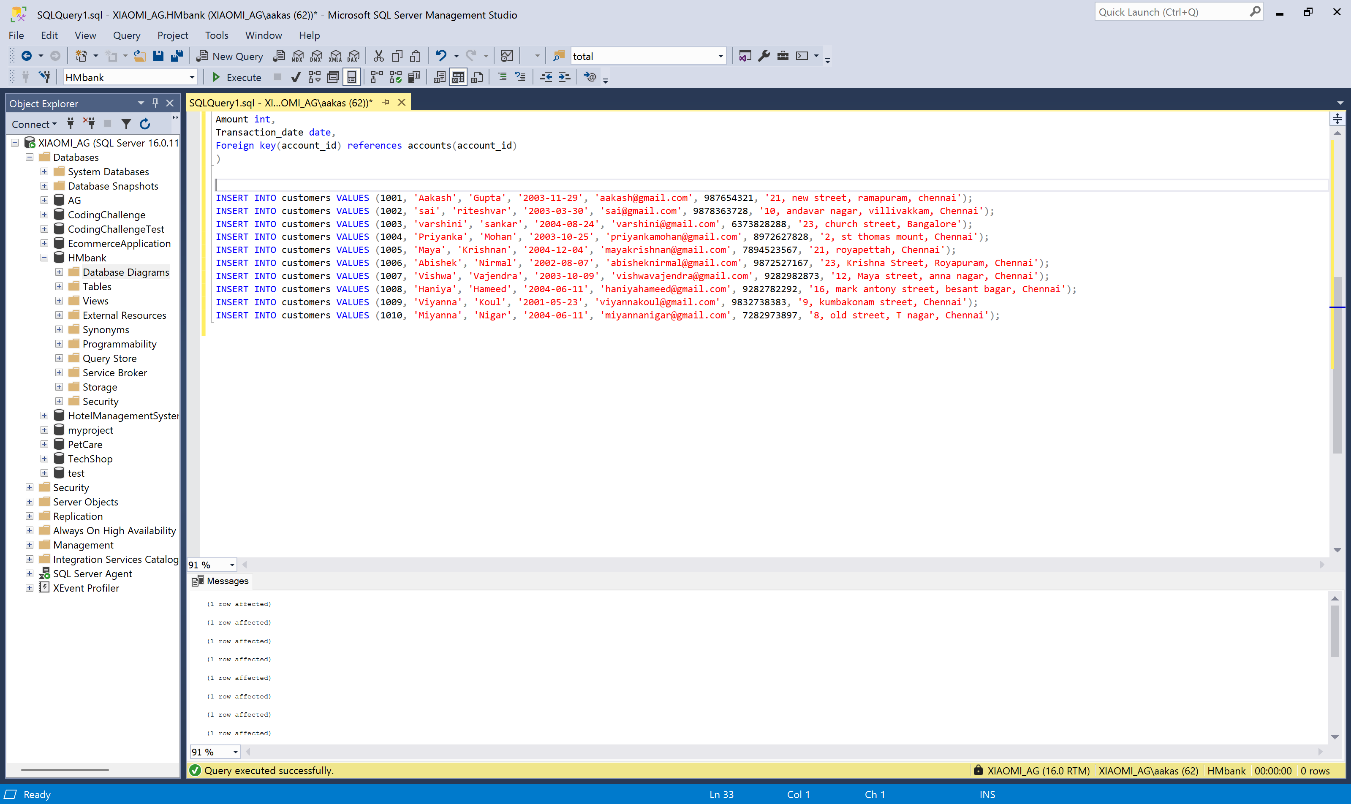
INSERT INTO customers VALUES (1006, 'Abishek', 'Nirmal', '2002-08-07', 'abisheknirmal@gmail.com', 9872527167, '23, Krishna Street, Royapuram, Chennai');

INSERT INTO customers VALUES (1007, 'Vishwa', 'Vajendra', '2003-10-09', 'vishwavajendra@gmail.com', 9282982873, '12, Maya street, anna nagar, Chennai');

INSERT INTO customers VALUES (1008, 'Haniya', 'Hameed', '2004-06-11', 'haniyahameed@gmail.com', 9282782292, '16, mark antony street, besant bagar, Chennai');

INSERT INTO customers VALUES (1009, 'Viyanna', 'Koul', '2001-05-23', 'viyannakoul@gmail.com', 9832738383, '9, kumbakonam street, Chennai');

INSERT INTO customers VALUES (1010, 'Miyanna', 'Nigar', '2004-06-11', 'miyannanigar@gmail.com', 7282973897, '8, old street, T nagar, Chennai');



**Inserting into Accounts Table:**

INSERT INTO accounts VALUES (1230, 1001, 'savings', 20000);

INSERT INTO accounts VALUES (1231, 1002, 'zero\_balance', 25000);

INSERT INTO accounts VALUES (1232, 1003, 'current', 30000);

INSERT INTO accounts VALUES (1233, 1004, 'savings', 35000);

INSERT INTO accounts VALUES (1234, 1005, 'zero\_balance', 15000);

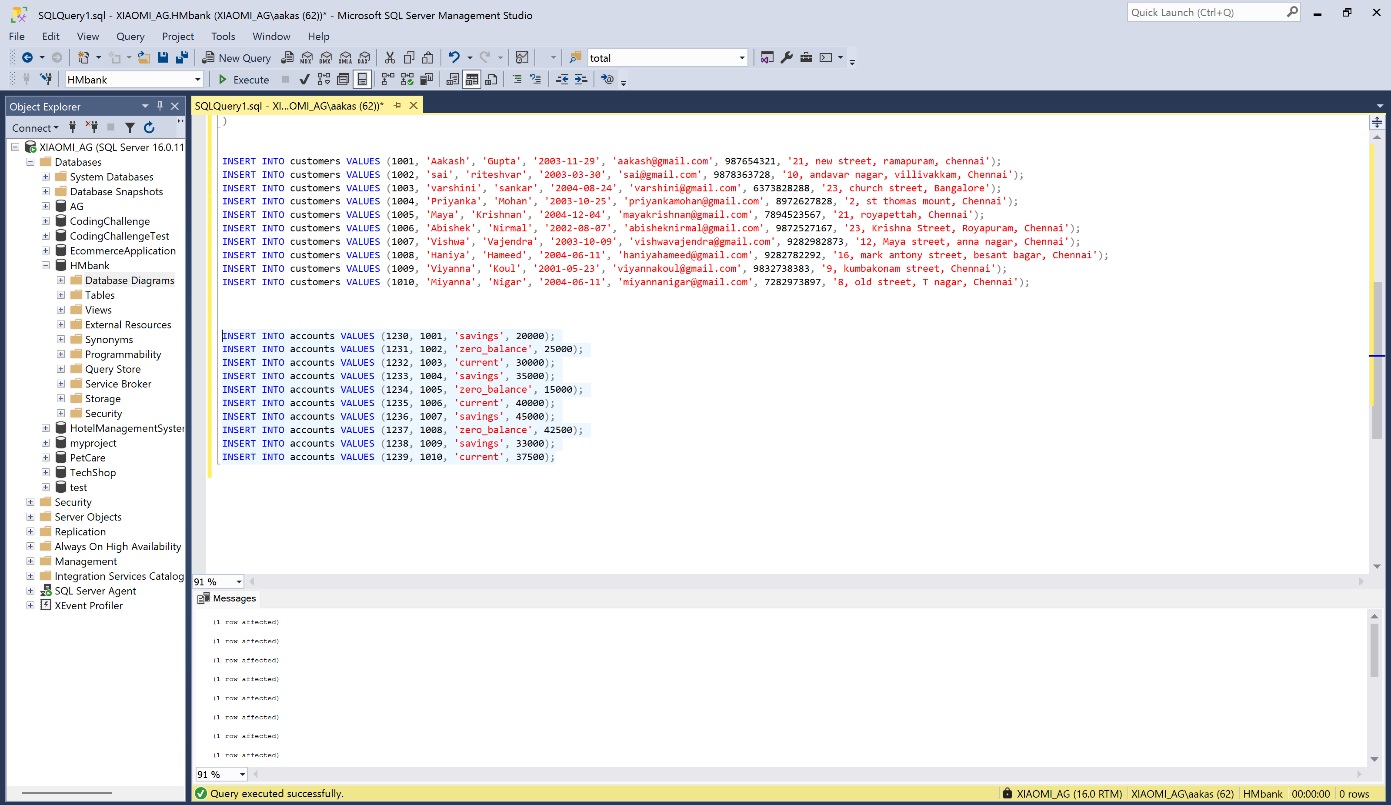
INSERT INTO accounts VALUES (1235, 1006, 'current', 40000);

INSERT INTO accounts VALUES (1236, 1007, 'savings', 45000);

INSERT INTO accounts VALUES (1237, 1008, 'zero\_balance', 42500);

INSERT INTO accounts VALUES (1238, 1009, 'savings', 33000);

INSERT INTO accounts VALUES (1239, 1010, 'current', 37500);



**Inserting into Transactions Table:**

INSERT INTO transactions VALUES (0034, 1230, 'deposit', 20000, '2025-03-16');

INSERT INTO transactions VALUES (0035, 1231, 'withdrawal', 15000, '2025-02-12');

INSERT INTO transactions VALUES (0036, 1232, 'transfer', 5000, '2025-01-13');

INSERT INTO transactions VALUES (0037, 1233, 'transfer', 2500, '2025-02-25');

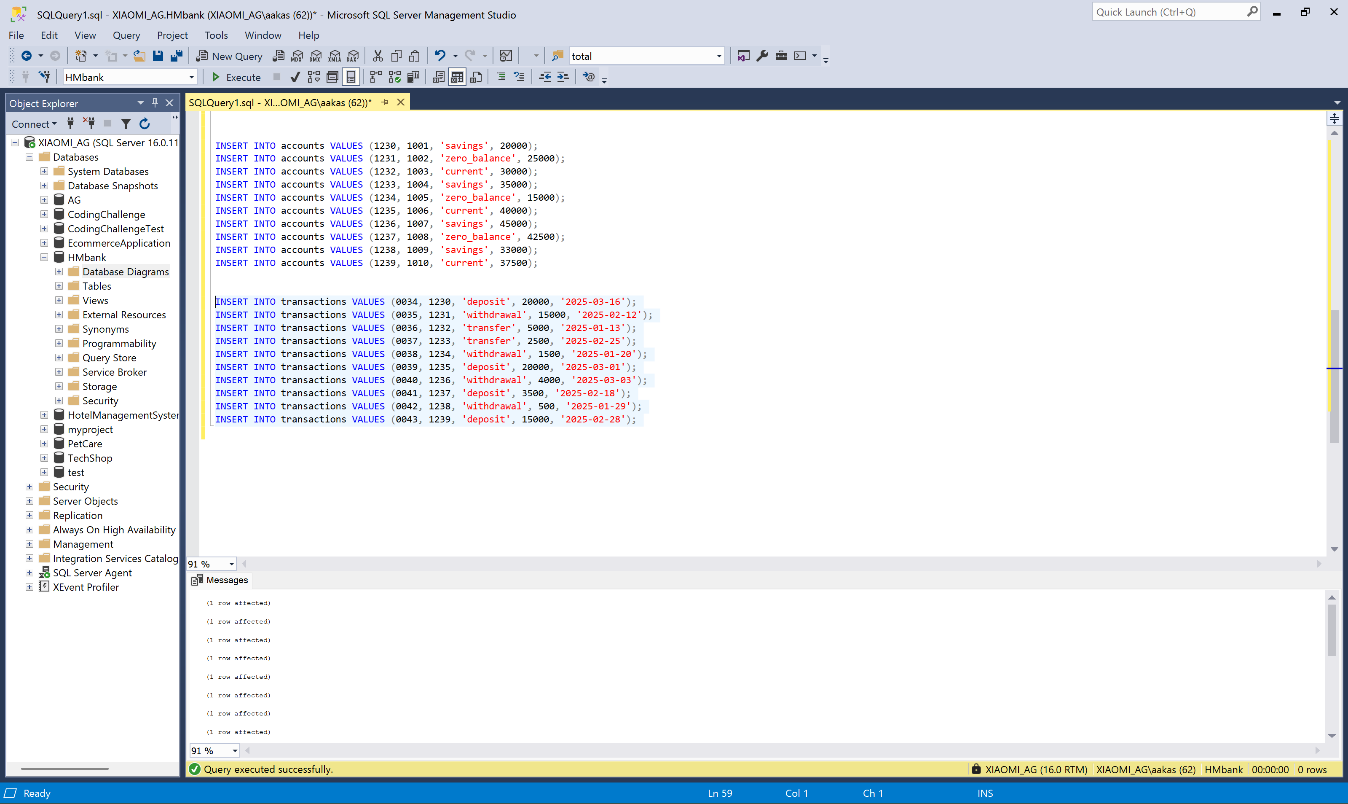
INSERT INTO transactions VALUES (0038, 1234, 'withdrawal', 1500, '2025-01-20');

INSERT INTO transactions VALUES (0039, 1235, 'deposit', 20000, '2025-03-01');

INSERT INTO transactions VALUES (0040, 1236, 'withdrawal', 4000, '2025-03-03');

INSERT INTO transactions VALUES (0041, 1237, 'deposit', 3500, '2025-02-18');

INSERT INTO transactions VALUES (0042, 1238, 'withdrawal', 500, '2025-01-29');

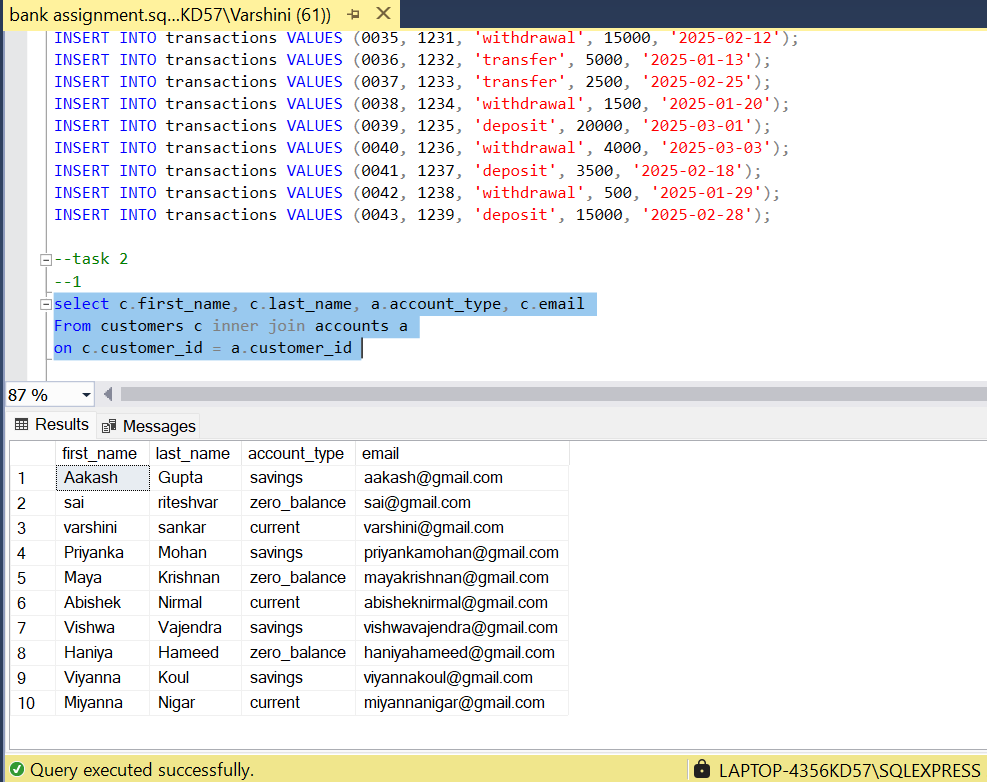
INSERT INTO transactions VALUES (0043, 1239, 'deposit', 15000, '2025-02-28');

2)SQL Queries

1) select c.first\_name, c.last\_name, a.account\_type, c.email

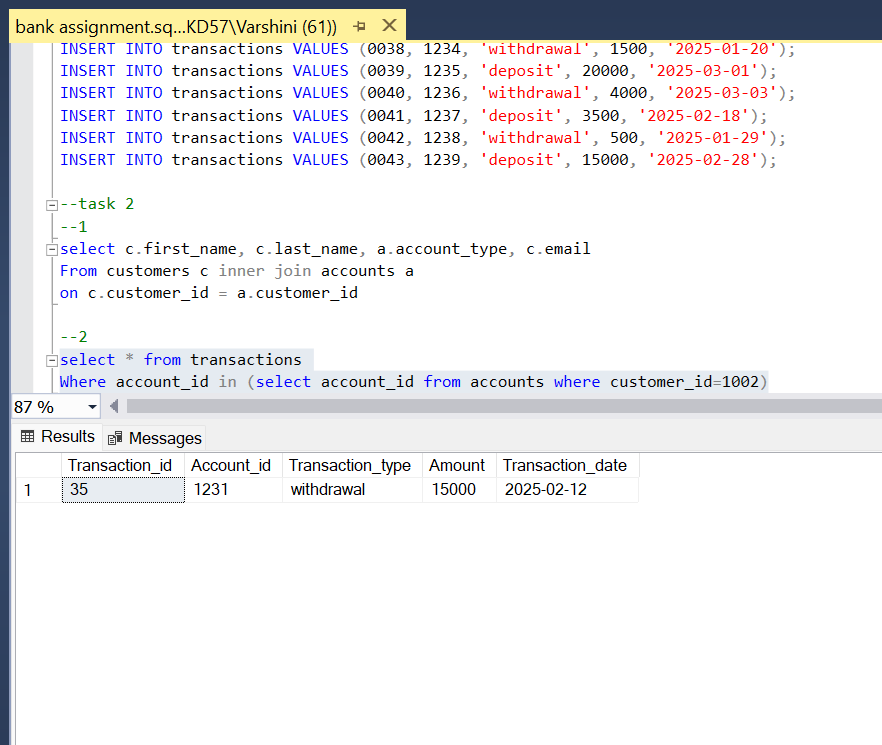
From customers c inner join accounts a

on c.customer\_id = a.customer\_id



2) select \* from transactions

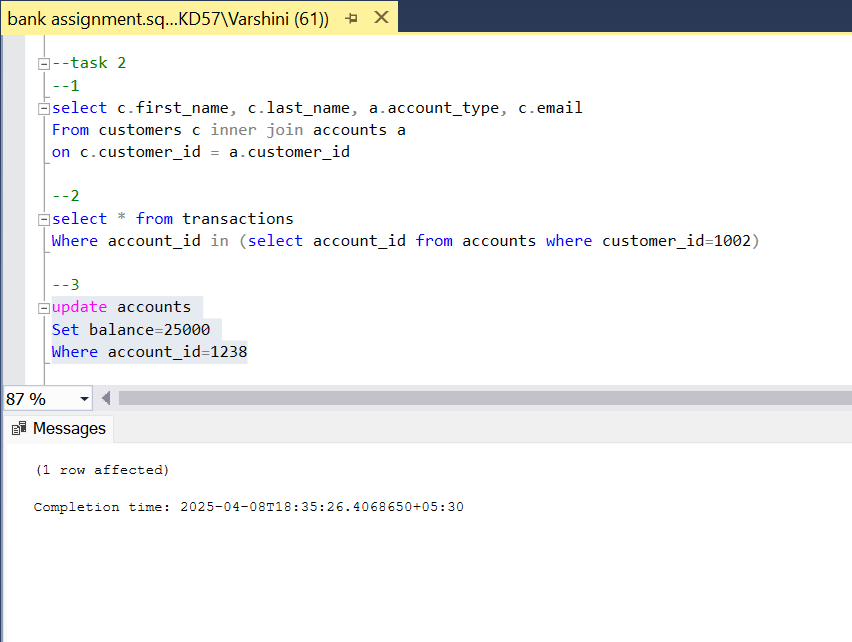
Where account\_id in (select account\_id from accounts where customer\_id=1002)



3) update accounts

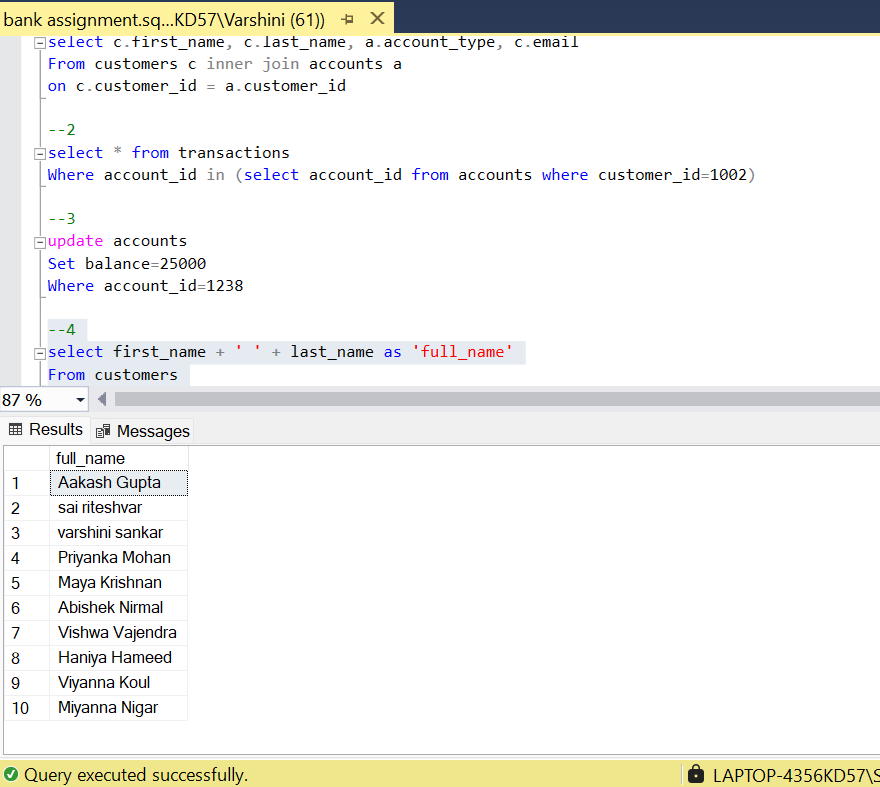
Set balance=25000

Where account\_id=1238



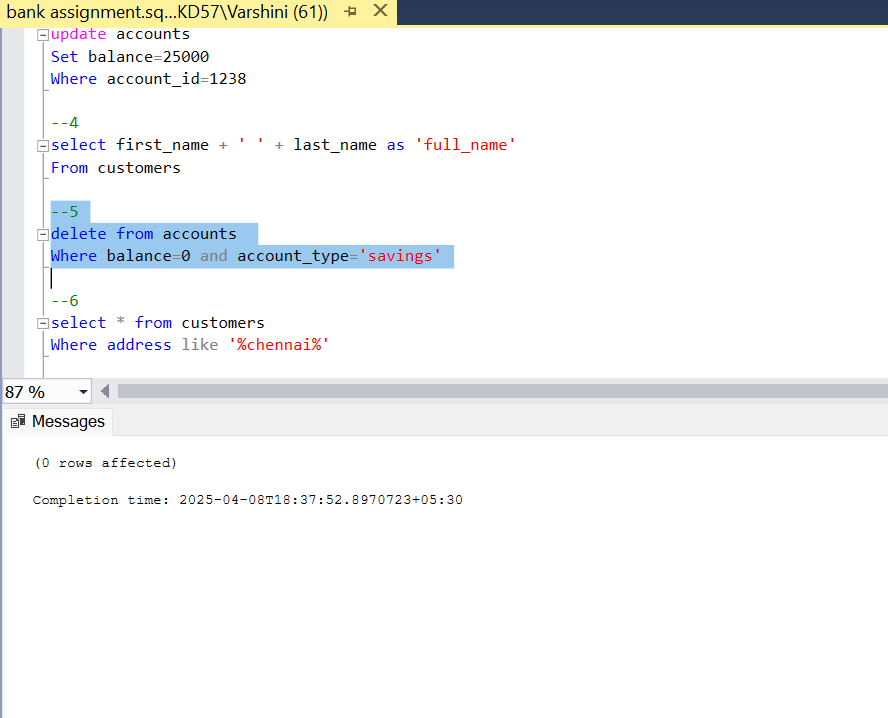
4)select first\_name + ‘ ‘ + last\_name as ‘full\_name’

From customers



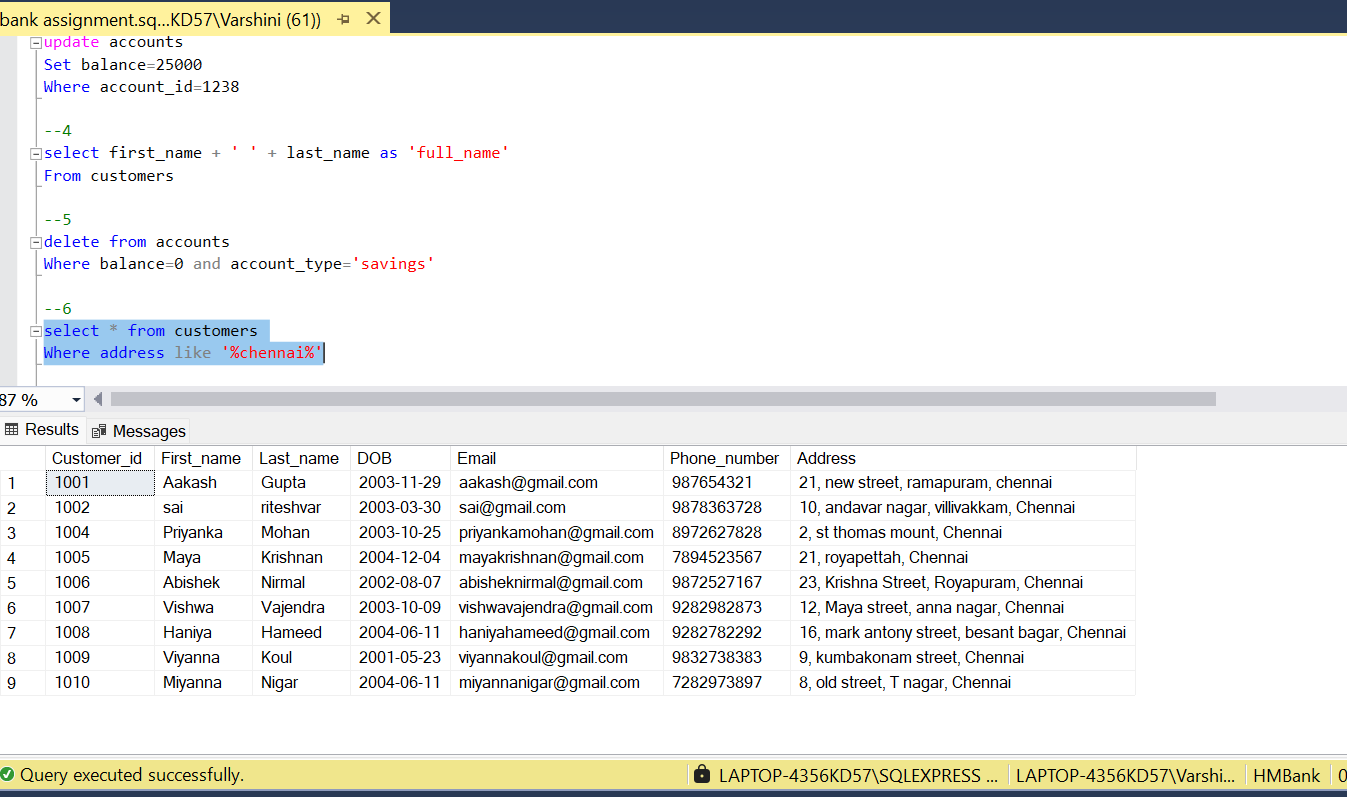
5)delete from accounts

Where balance=0 and account\_type=’savings’



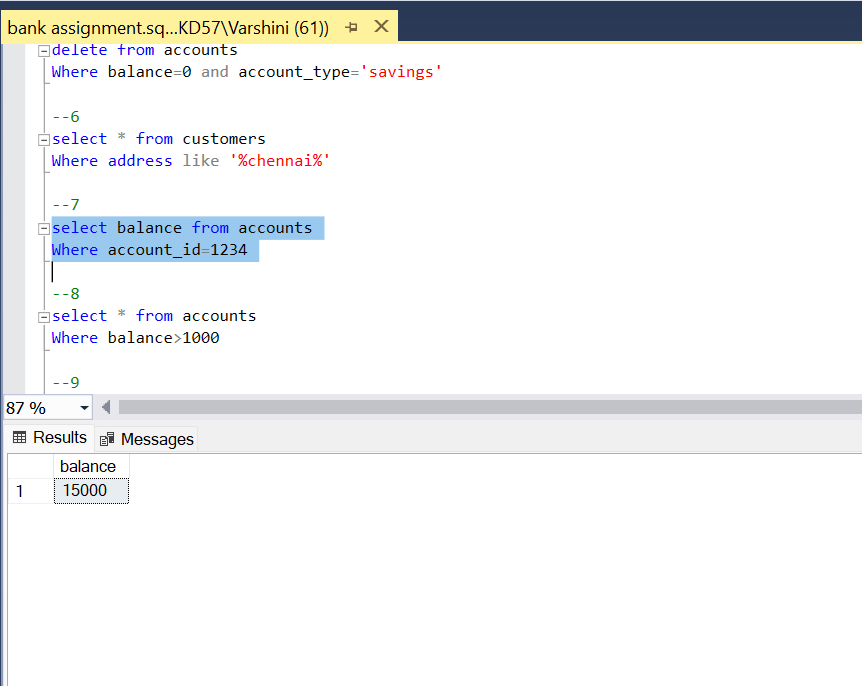
6)select \* from customers

Where address like ‘%chennai%’



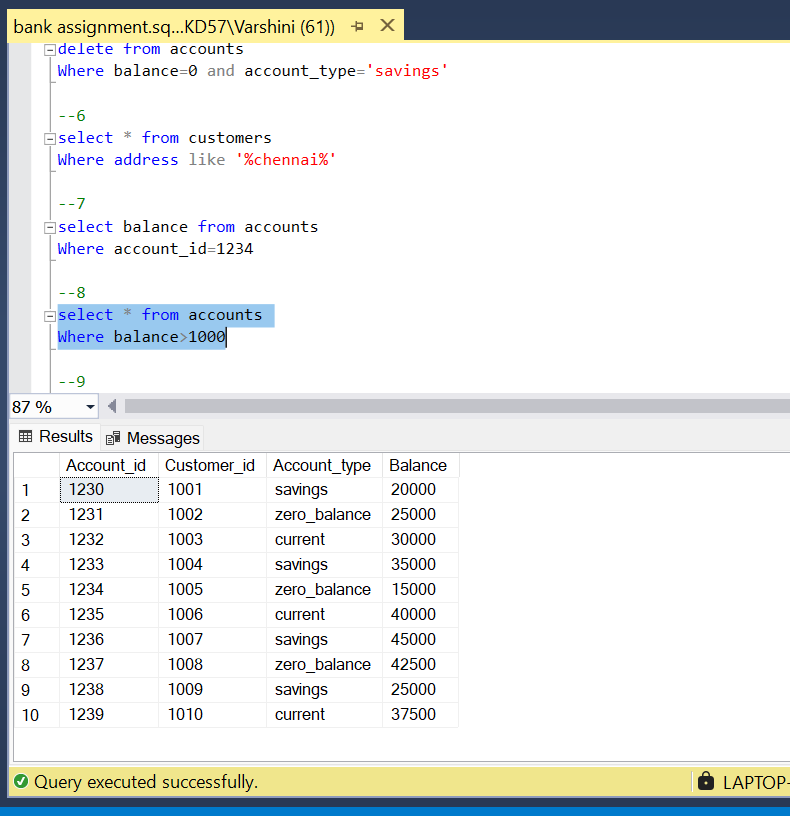
7)select balance from accounts

Where account\_id=1234



8)select \* from accounts

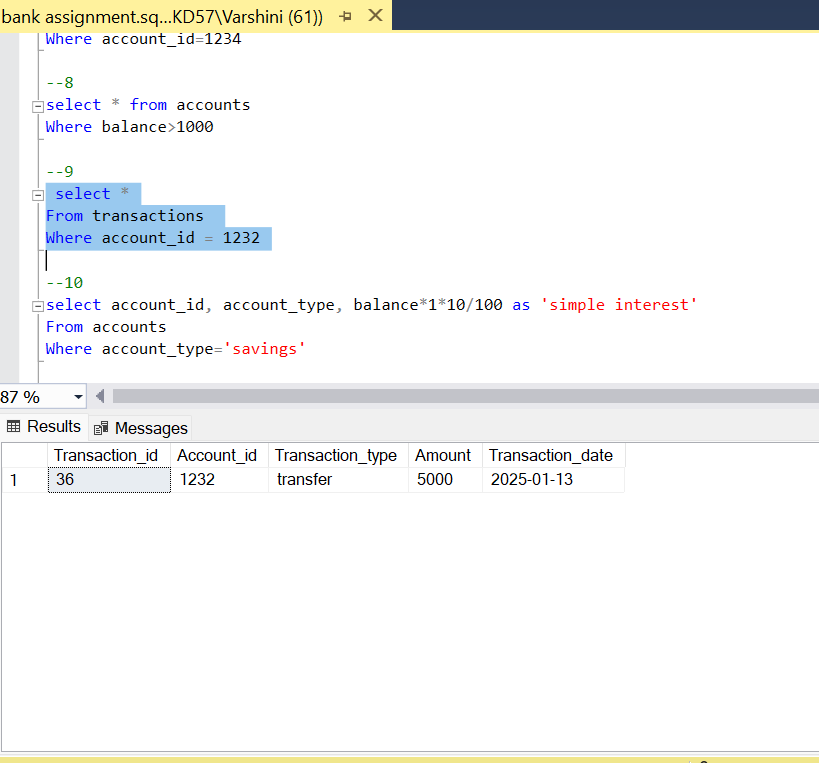
Where balance>1000



9) select \*

From transactions

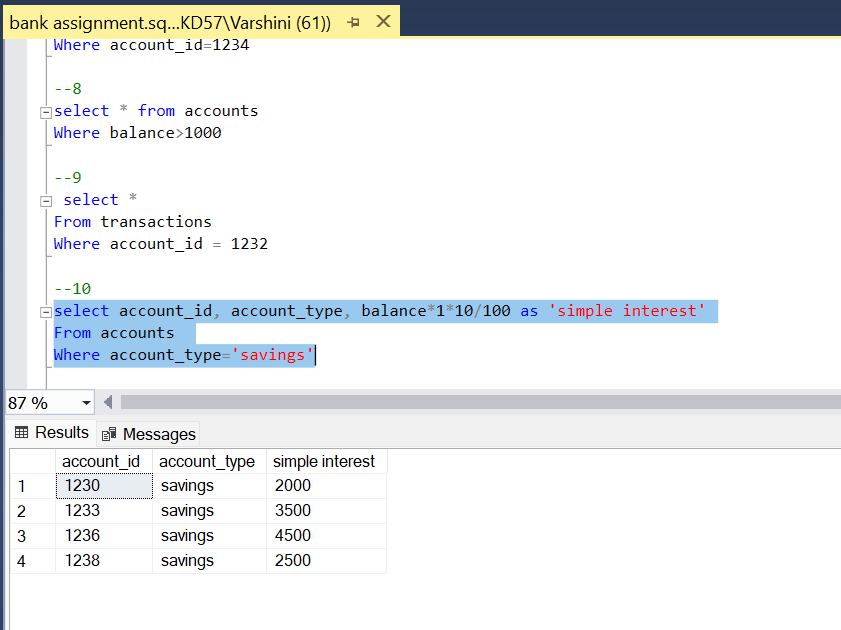
Where account\_id = 1232



10) select account\_id, account\_type, balance\*1\*10/100 as ‘simple interest’

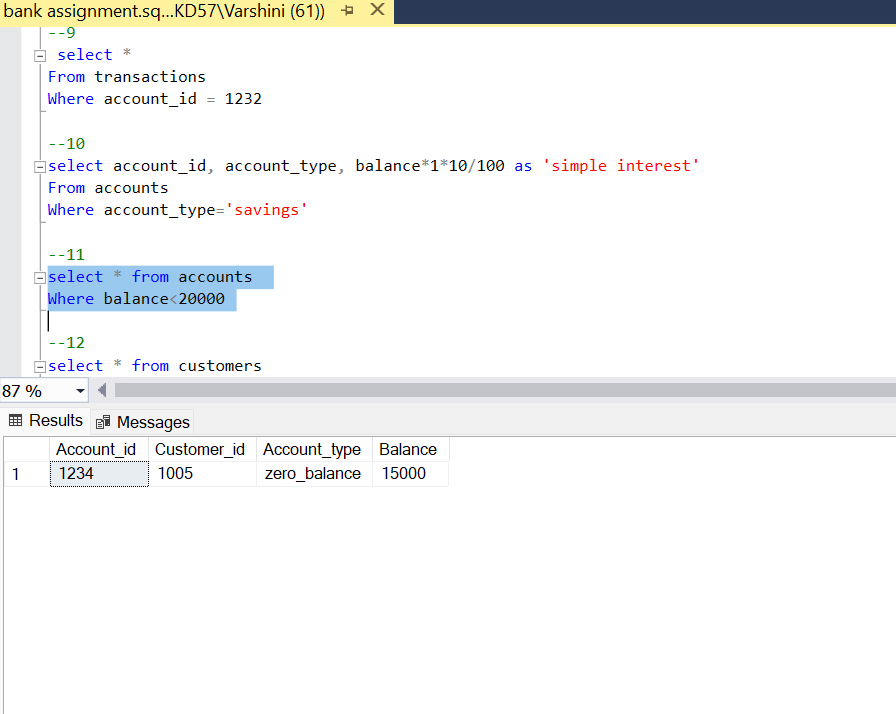
From accounts

Where account\_type=’savings’



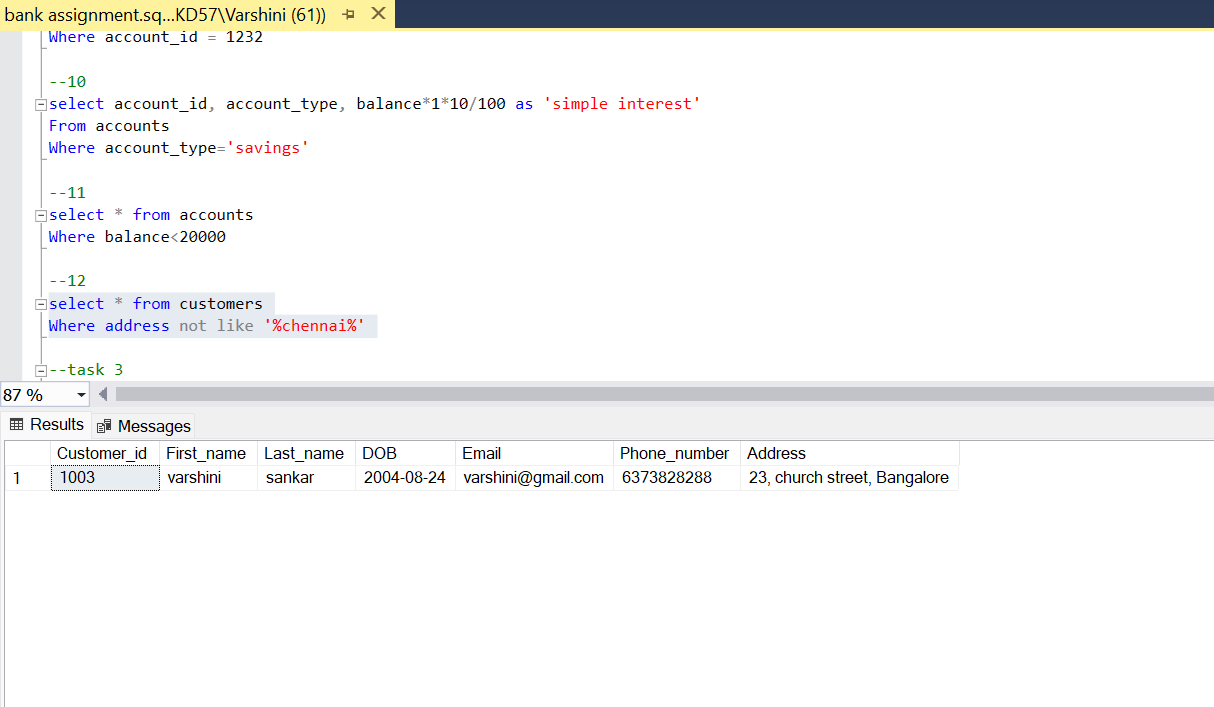
11) select \* from accounts

Where balance<20000



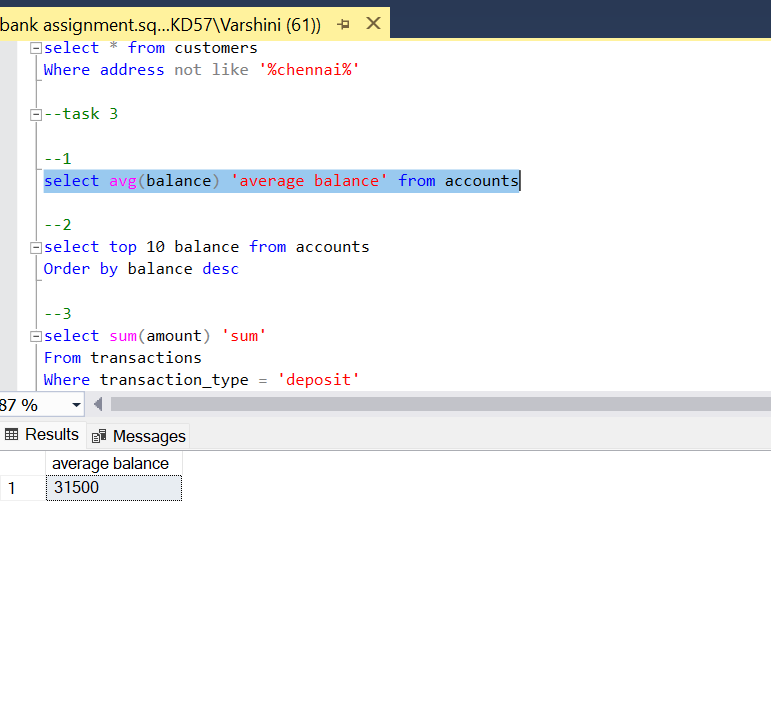
12) select \* from customers

Where address not like ‘%chennai%’



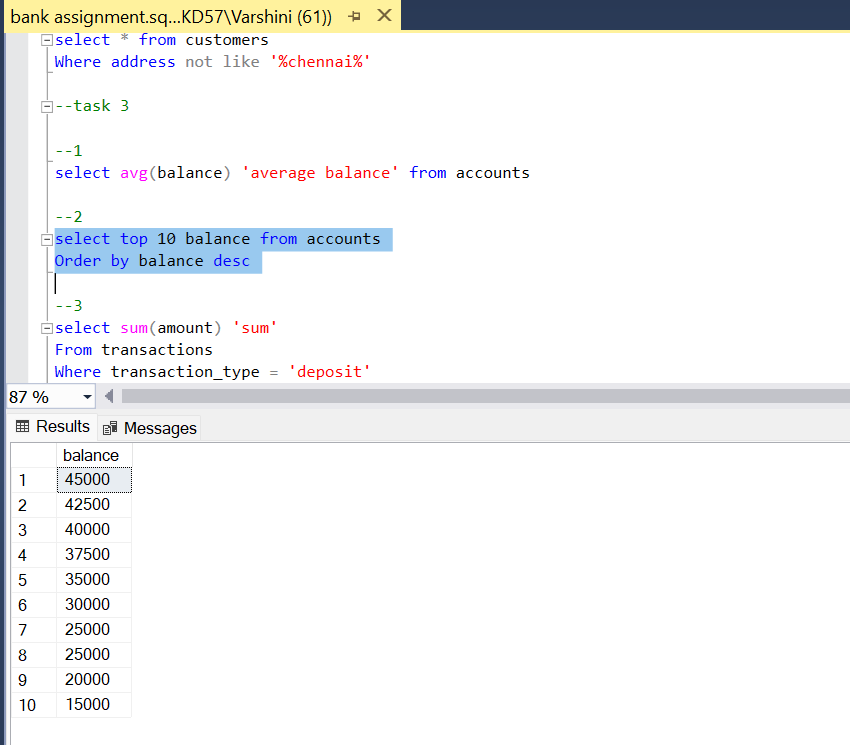
**Task 3:**

1)select avg(balance) ‘average balance’ from accounts



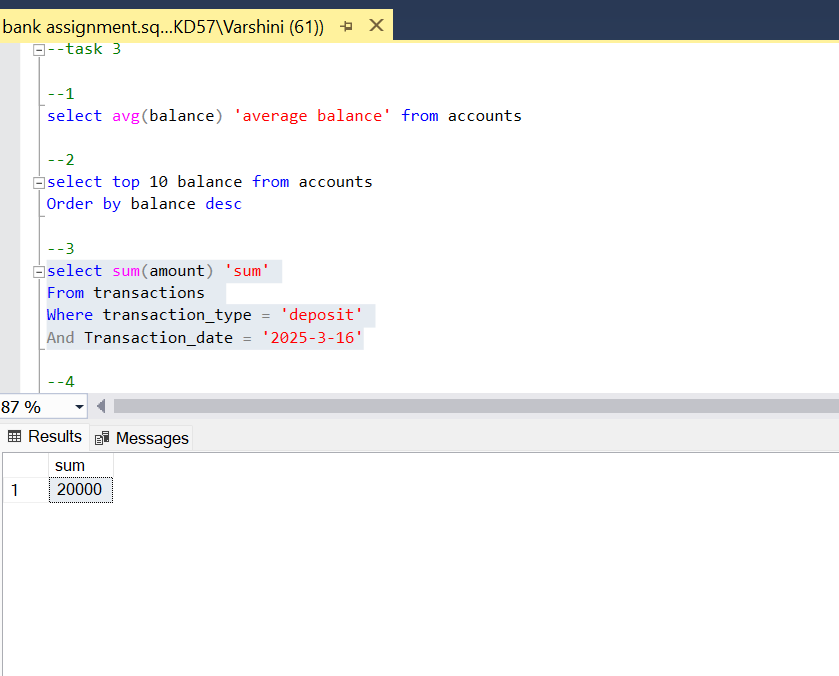
2)select top 10 balance from accounts

Order by balance desc



3) select sum(amount) 'sum'

From transactions

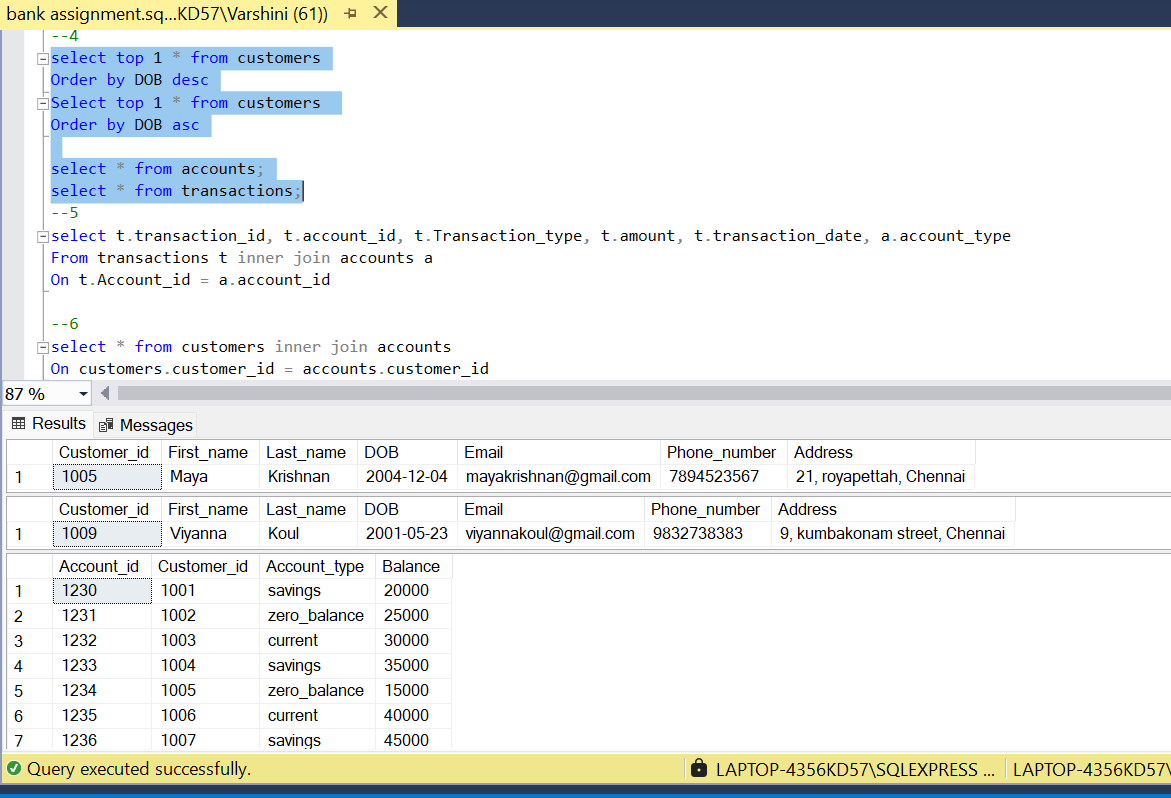
Where transaction\_type = 'deposit' And Transaction\_date = '2025-3-16'

4)select top 1 \* from customers

Order by DOB desc

Select top 1 \* from customers

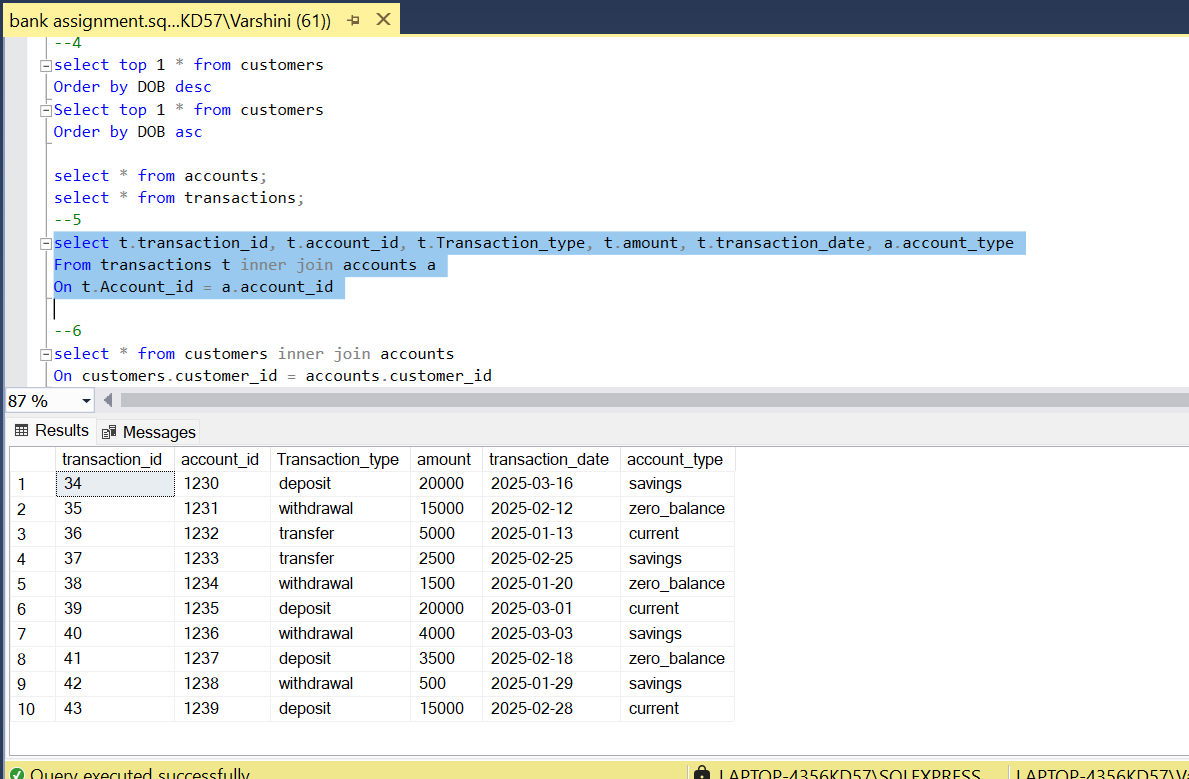
Order by DOB asc



5) select t.transaction\_id, t.account\_id, t.trasaction\_type, t.amount, t.transaction\_date, a.account\_type

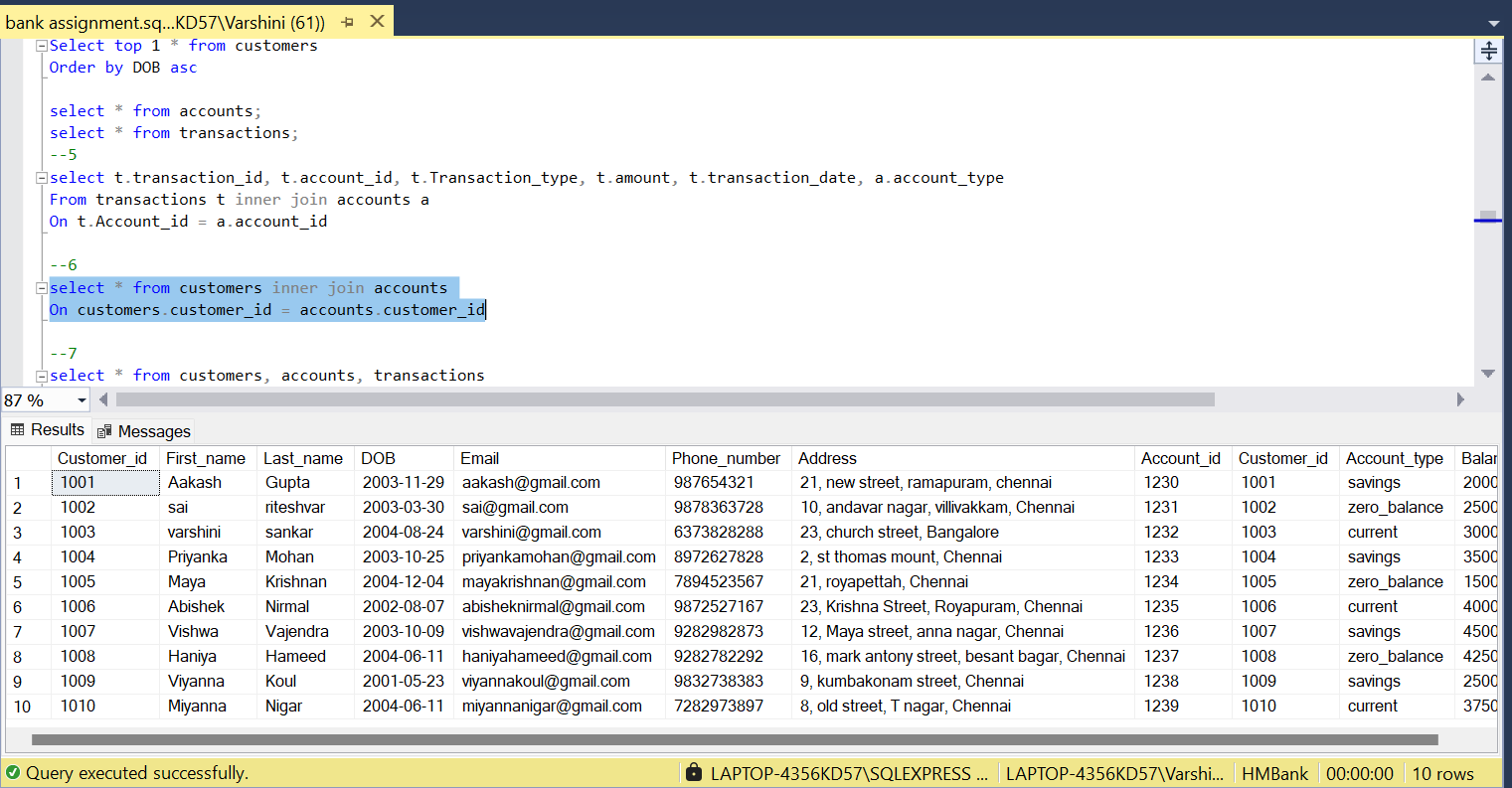
From transactions t inner join accounts a

On t.transaction\_id = a.account\_id



6) select \* from customers inner join accounts

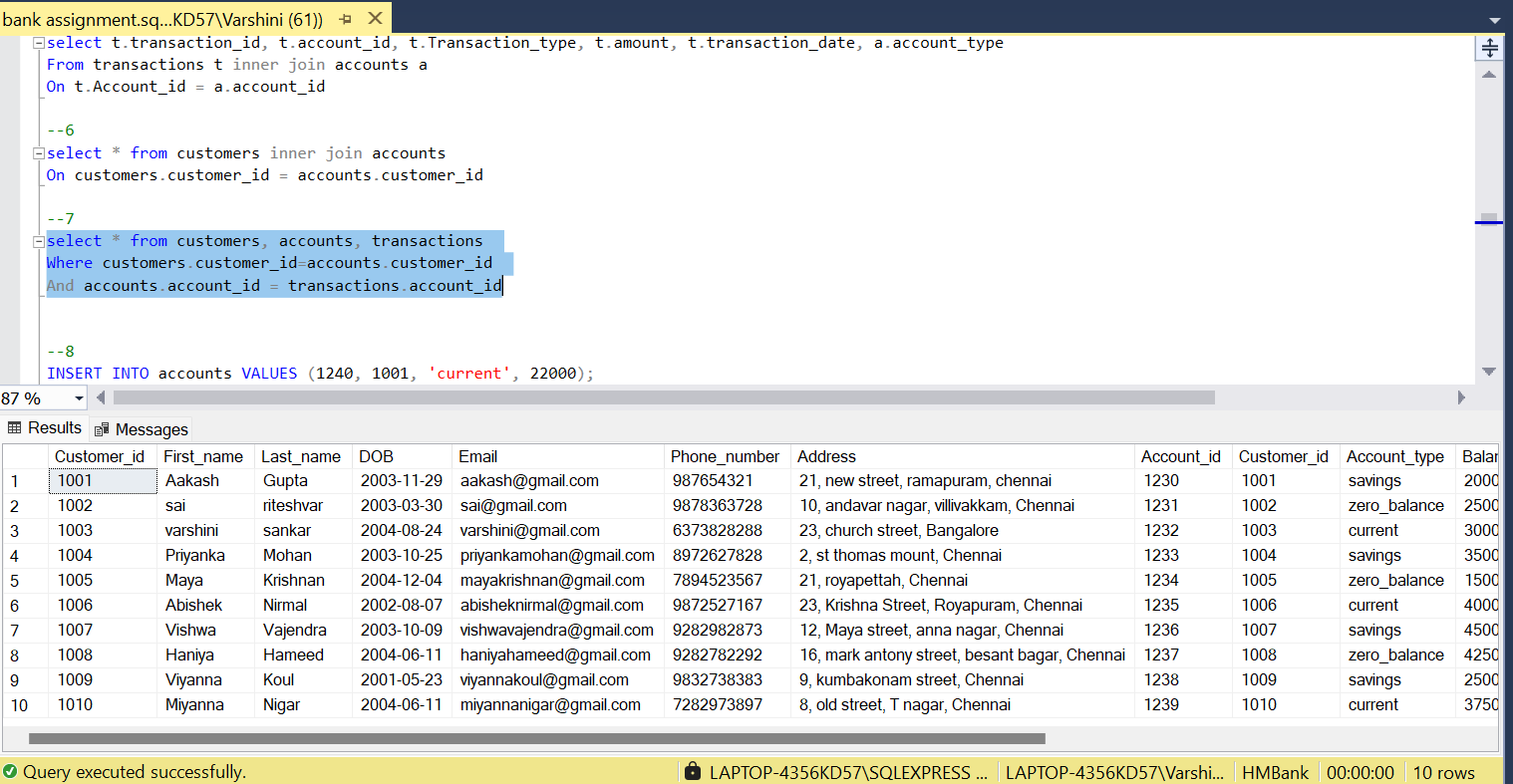
On customers.customer\_id = accounts.customer\_id



7) select \* from customers, accounts, transactions

Where customers.customer\_id=accounts.customer\_id

And accounts.account\_id = transactions.account\_id



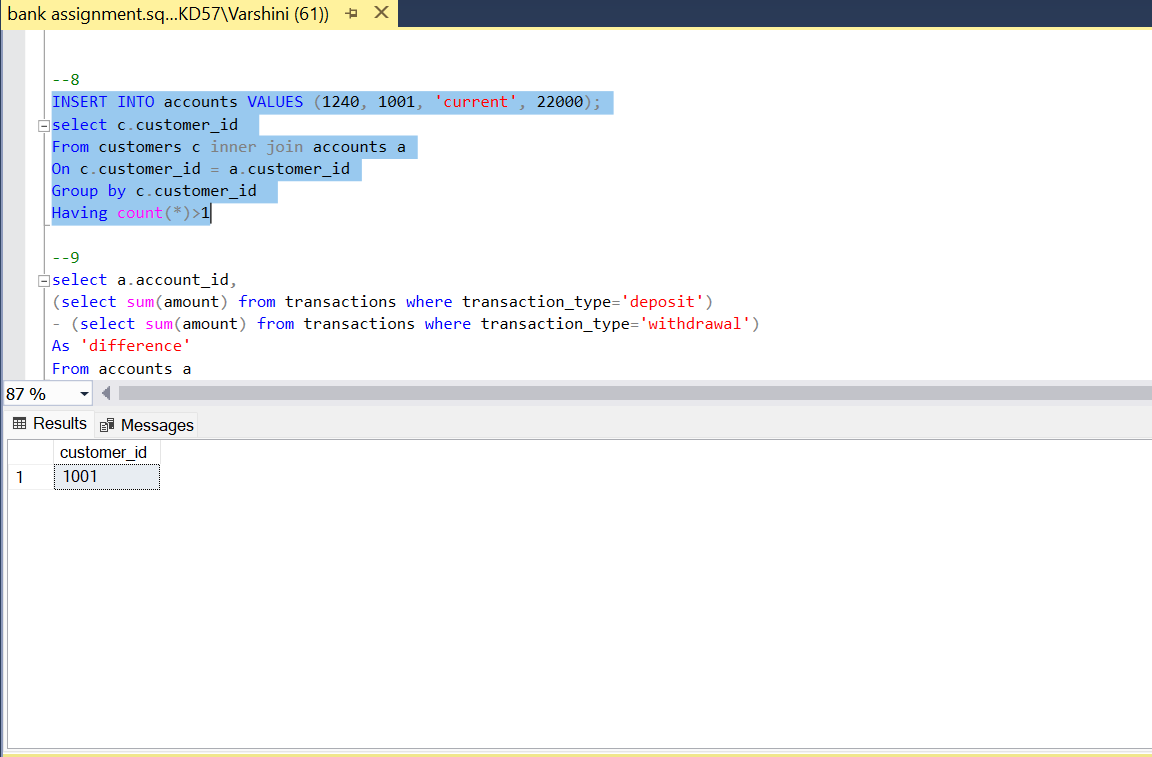
8) select c.customer\_id

From customers c inner join accounts a

On c.customer\_id = a.customer\_id

Group by c.customer\_id

Having count(\*)>1



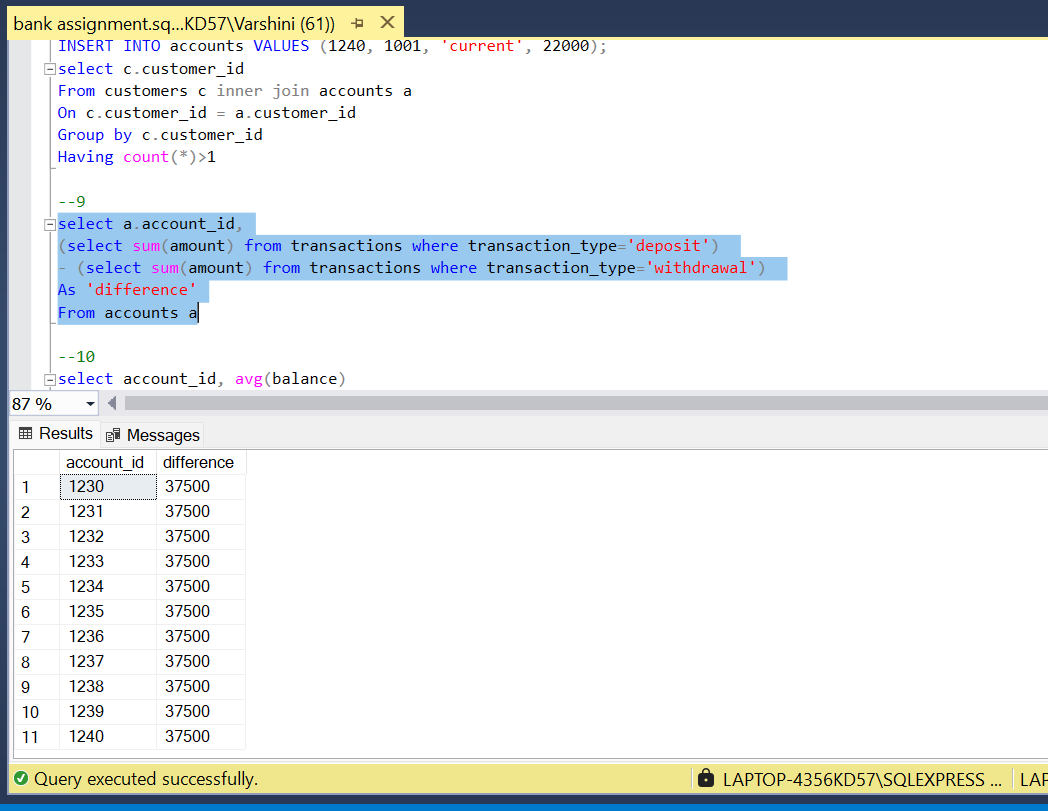
9) select a.account\_id,

(select sum(amount) from transactions where transaction\_type=’deposit’)

- (select sum(amount) from transactions where transaction\_type=’withdrawal’)

As ‘difference’

From accounts a



10) select account\_id, avg(balance)

From accounts

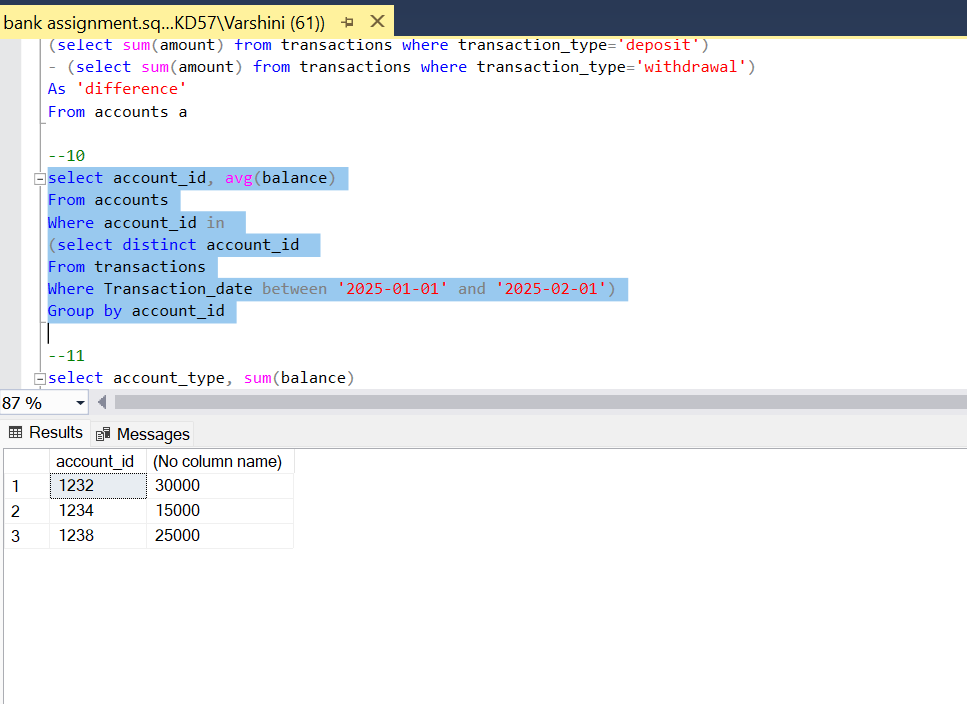
Where account\_id in

(select distinct account\_id

From transactions

Where transactions between ‘2025-01-01’ and ‘2025-02-01’)

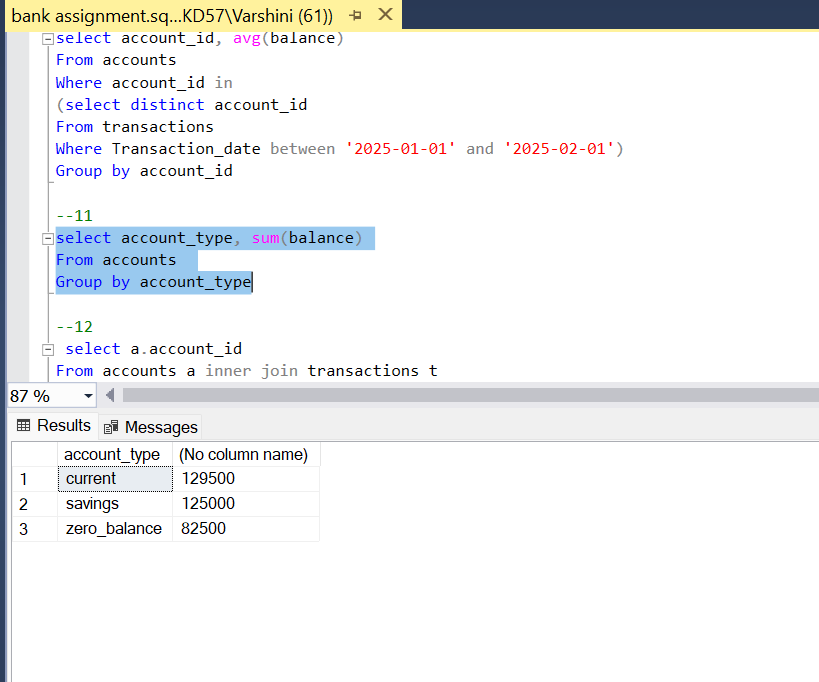
Group by account\_id



11) select account\_type, sum(balance)

From accounts

Group by account\_type



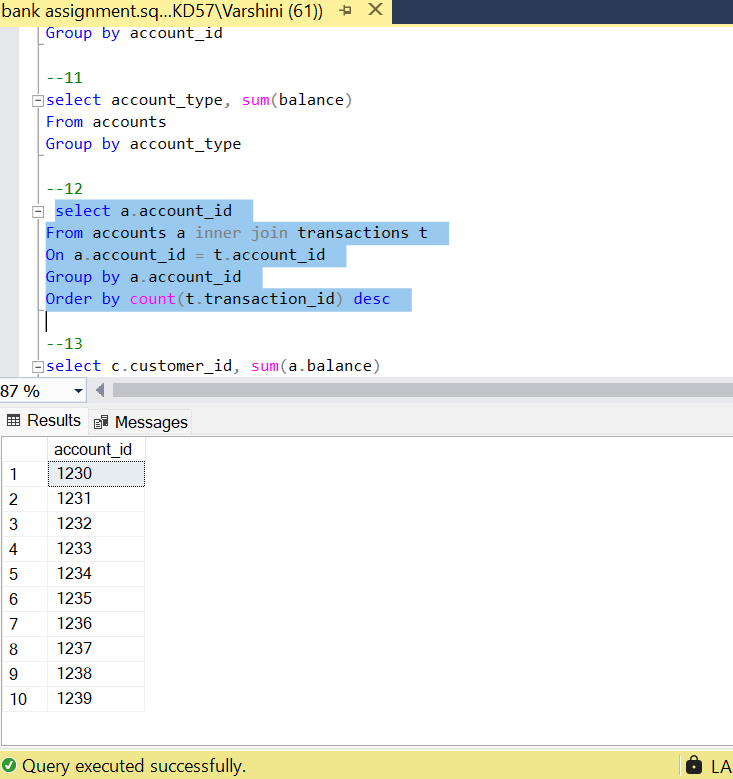
12) select a.account\_id

From accounts a inner join transactions t

On a.account\_id = t.account\_id

Group by a.account\_id

Order by count(t.transaction\_id) desc



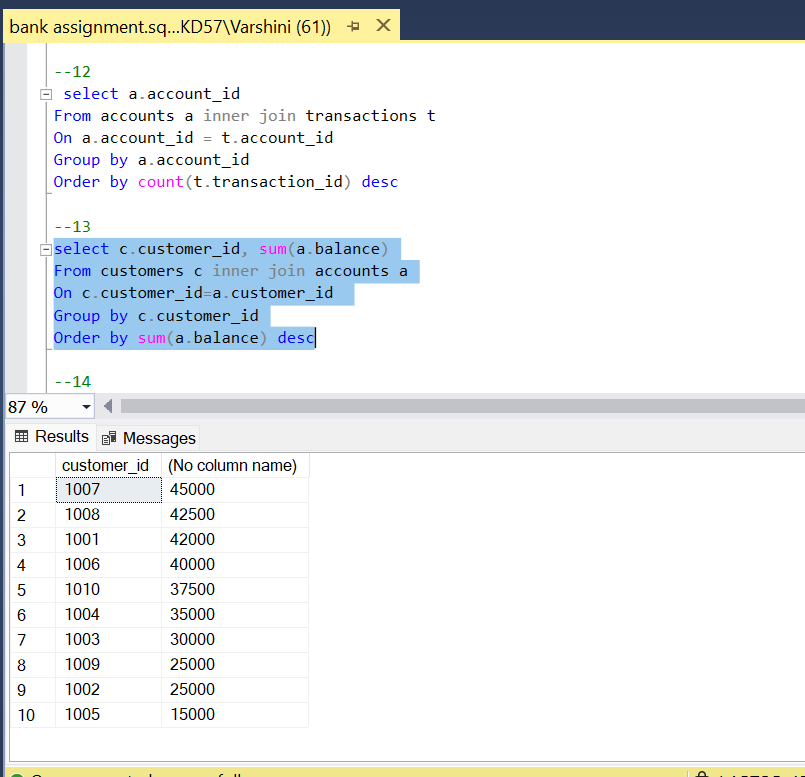
13) select c.customer\_id, sum(a.balance)

From customers c inner join accounts a

On c.customer\_id=a.customer\_id

Group by c.customer\_id

Order by sum(a.balance) desc



14) SELECT t.\*

FROM transactions t

JOIN (

SELECT account\_id, amount, transaction\_date

FROM transactions

GROUP BY account\_id, amount, transaction\_date

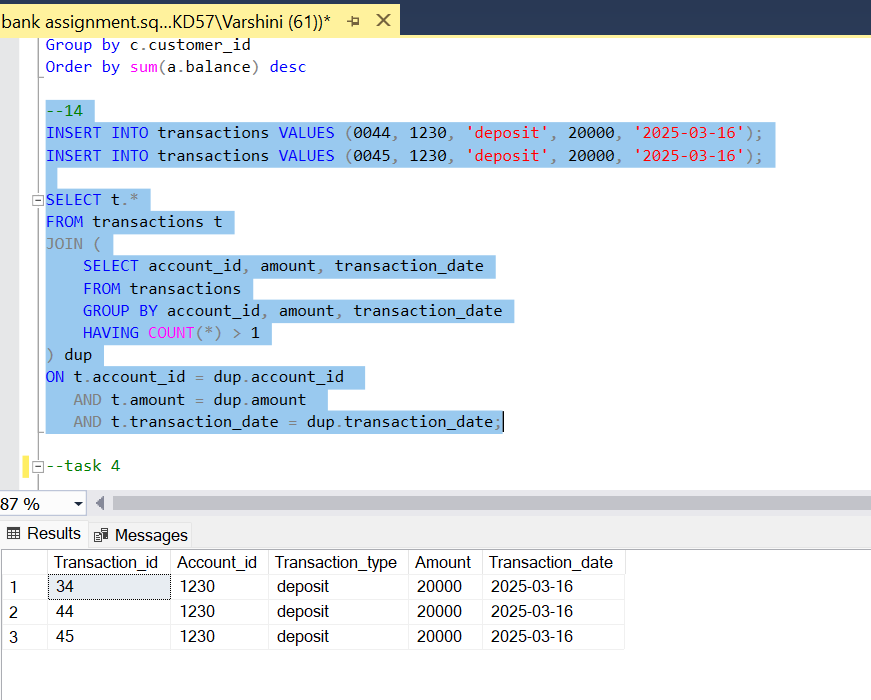
HAVING COUNT(\*) > 1

) dup

ON t.account\_id = dup.account\_id

AND t.amount = dup.amount

AND t.transaction\_date = dup.transaction\_date;

****

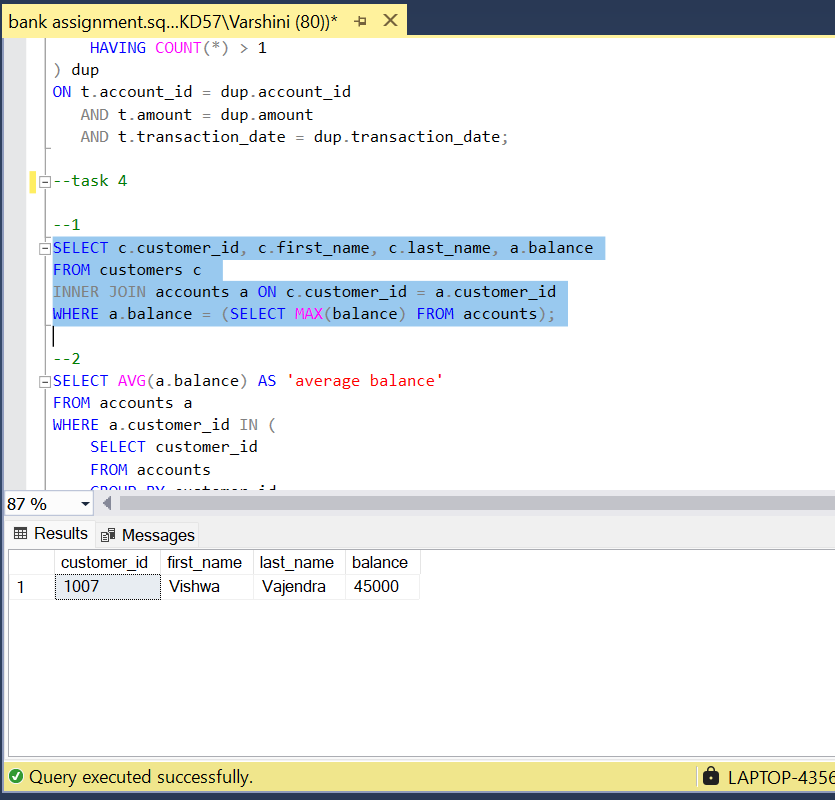
**Task 4:**

1)select c.customer\_id, c.first\_name, c.last\_name, a.balance

From customers c inner join accounts a

On c.customer\_id=a.customer\_id

Where a.balance=(select max(balance) from accounts)



2) SELECT AVG(a.balance) AS 'average balance'

FROM accounts a

WHERE a.customer\_id IN (

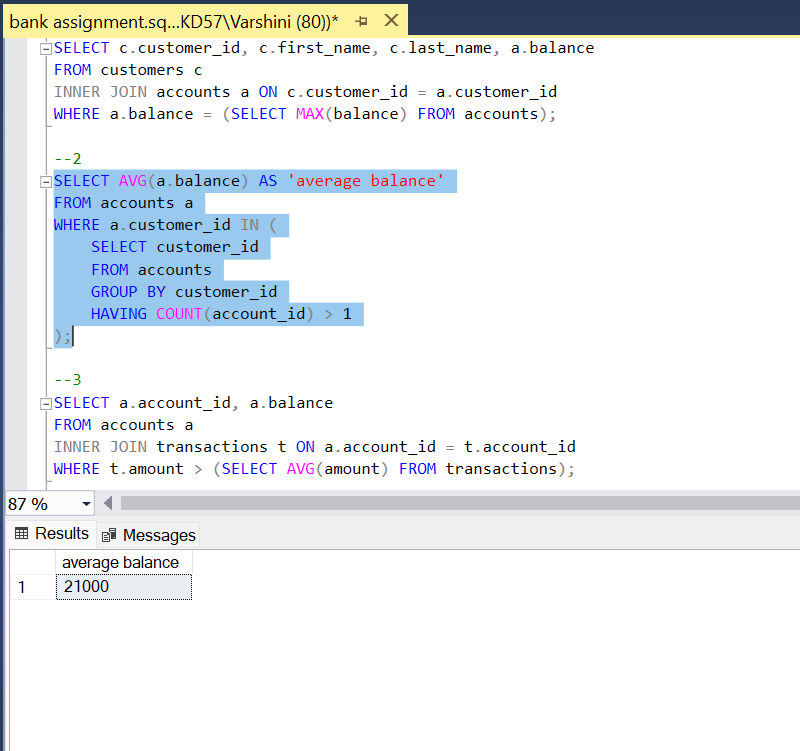
SELECT customer\_id

FROM accounts

GROUP BY customer\_id

HAVING COUNT(account\_id) > 1

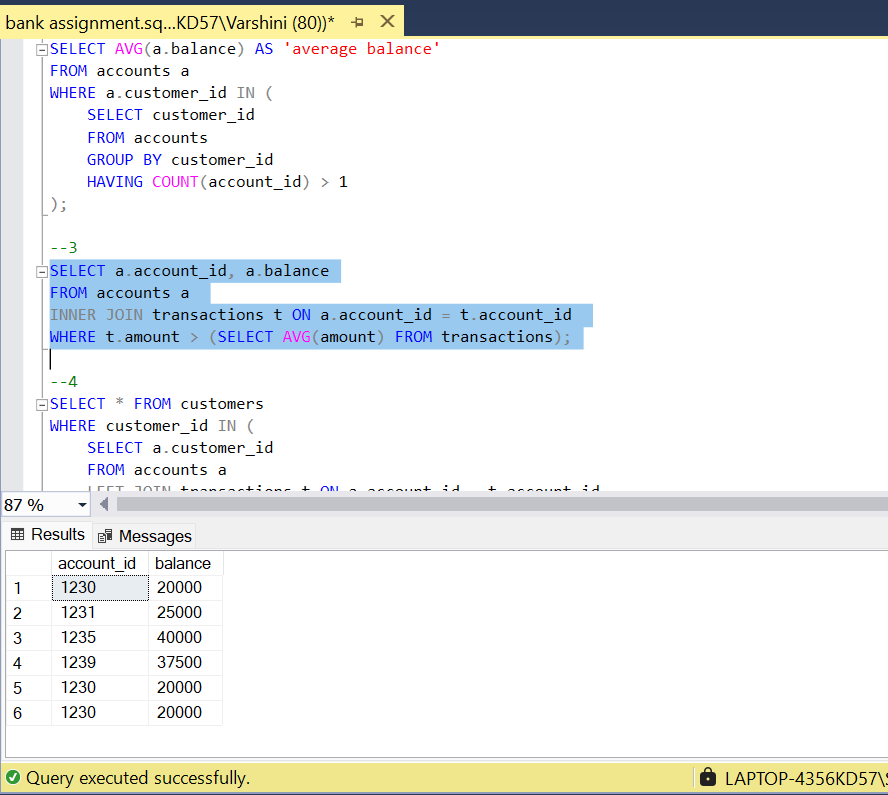
);



3) SELECT a.account\_id, a.balance

FROM accounts a

INNER JOIN transactions t ON a.account\_id = t.account\_id

WHERE t.amount > (SELECT AVG(amount) FROM transactions);

4) SELECT \* FROM customers

WHERE customer\_id IN (

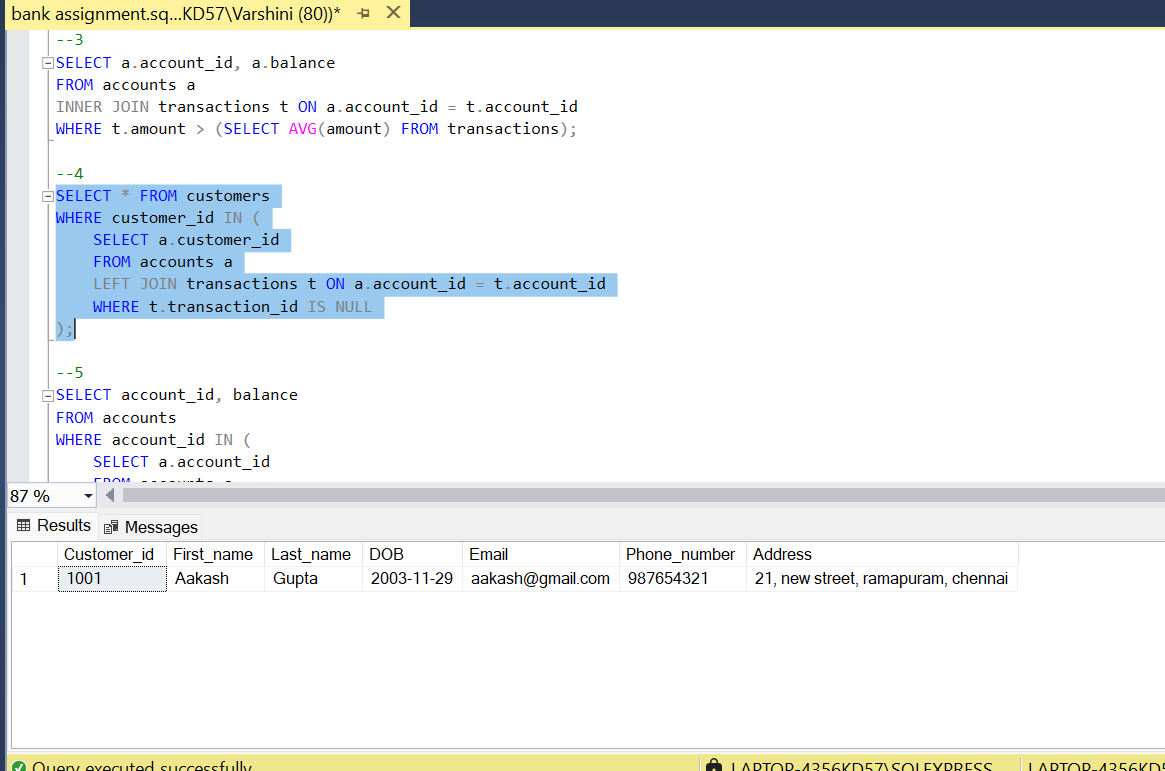
SELECT a.customer\_id

FROM accounts a

LEFT JOIN transactions t ON a.account\_id = t.account\_id

WHERE t.transaction\_id IS NULL

););



5) SELECT account\_id, balance

FROM accounts

WHERE account\_id IN (

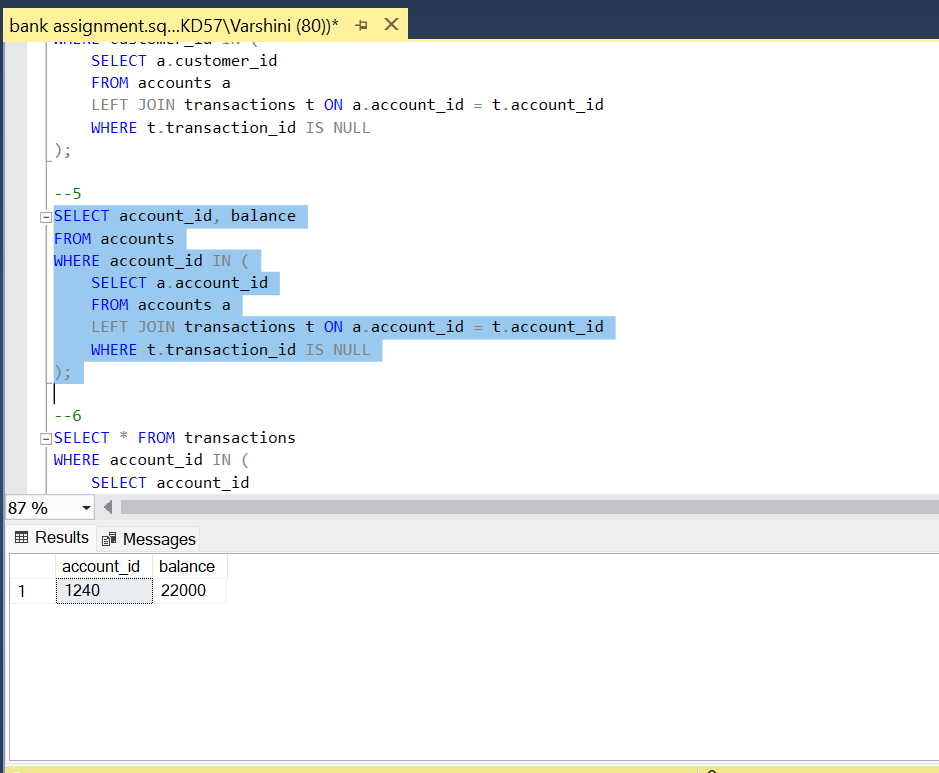
SELECT a.account\_id

FROM accounts a

LEFT JOIN transactions t ON a.account\_id = t.account\_id

WHERE t.transaction\_id IS NULL

);



6) SELECT \* FROM transactions

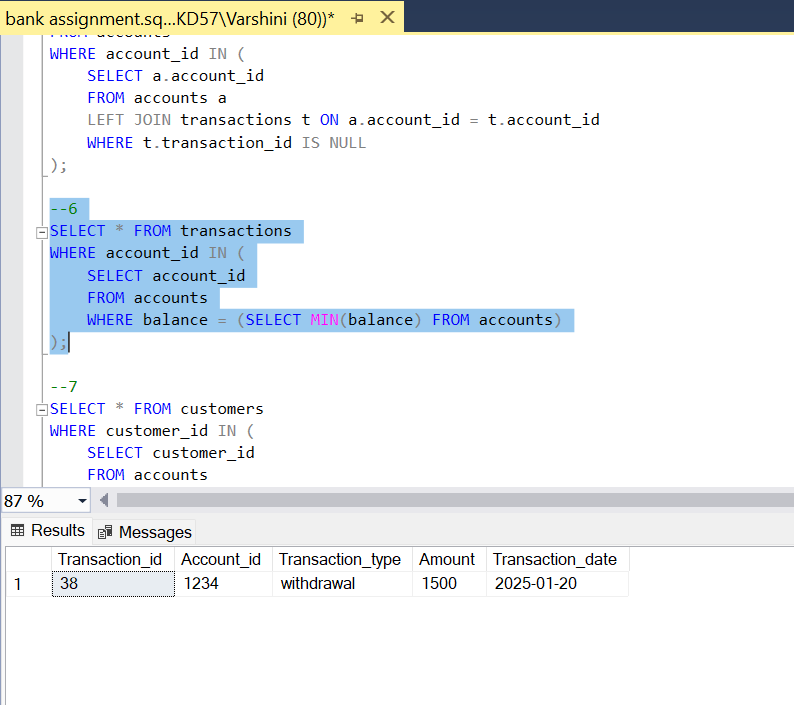
WHERE account\_id IN (

SELECT account\_id

FROM accounts

WHERE balance = (SELECT MIN(balance) FROM accounts)

);



7) SELECT \* FROM customers

WHERE customer\_id IN (

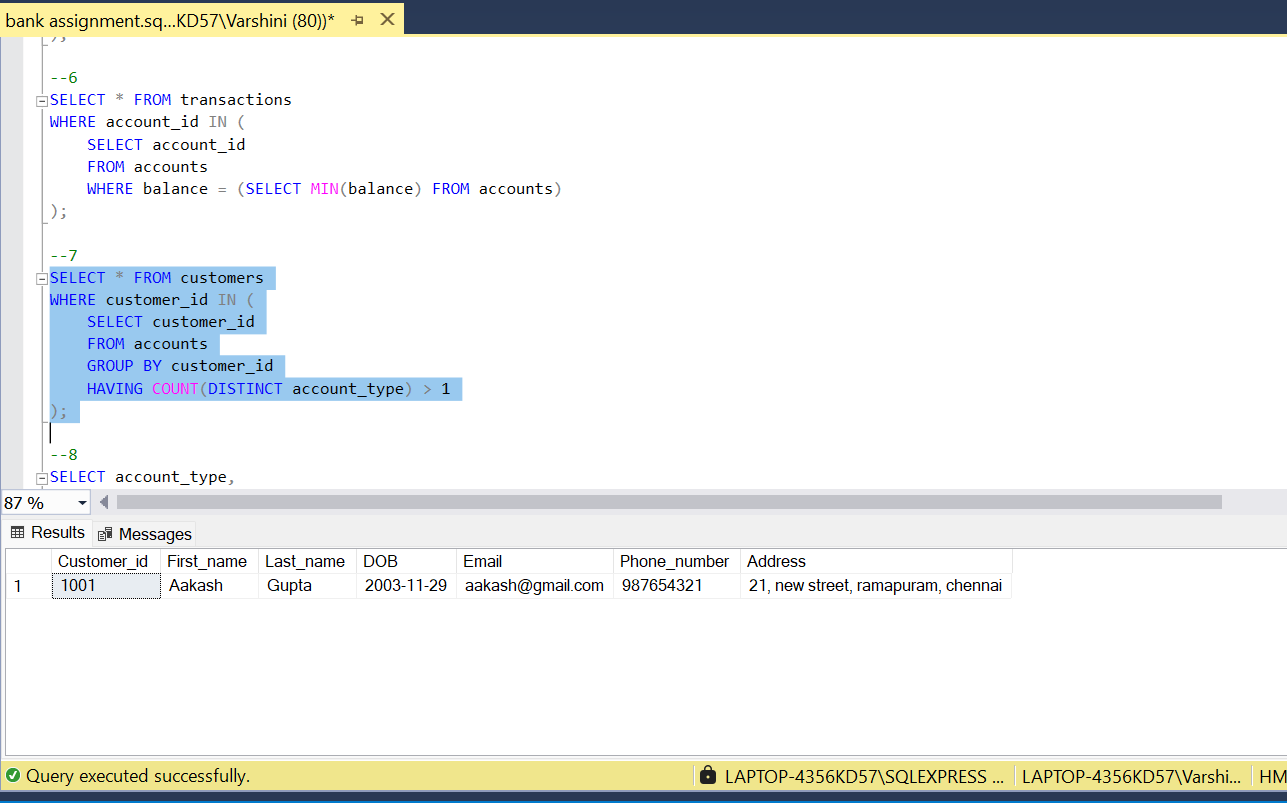
SELECT customer\_id

FROM accounts

GROUP BY customer\_id

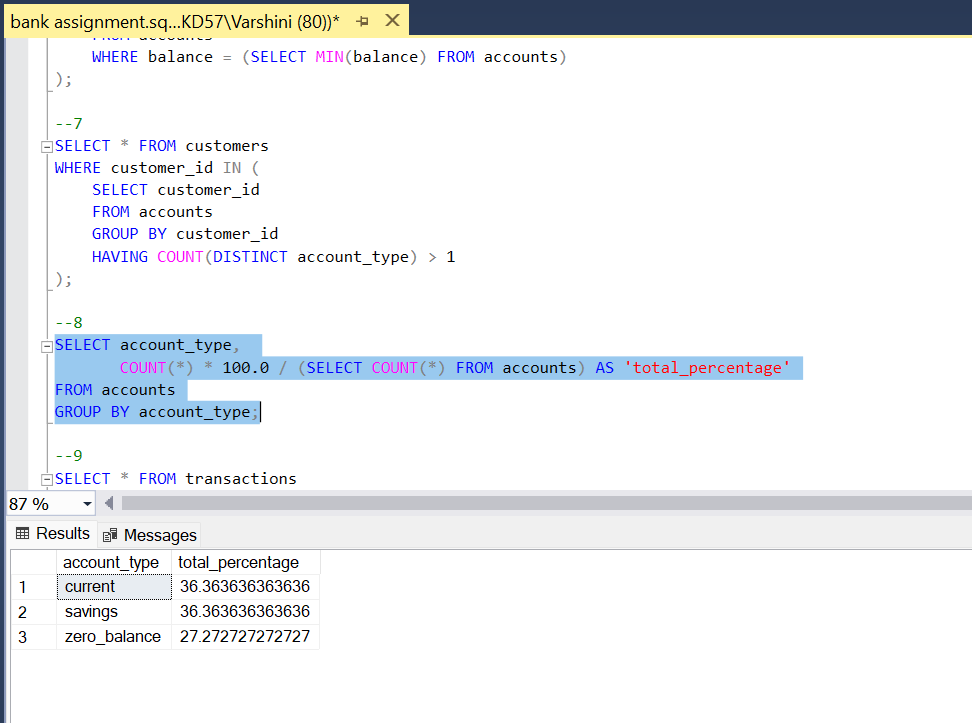
HAVING COUNT(DISTINCT account\_type) > 1

);



8) SELECT account\_type,

COUNT(\*) \* 100.0 / (SELECT COUNT(\*) FROM accounts) AS 'total\_percentage'

FROM accounts GROUP BY account\_type;

9) SELECT \* FROM transactions

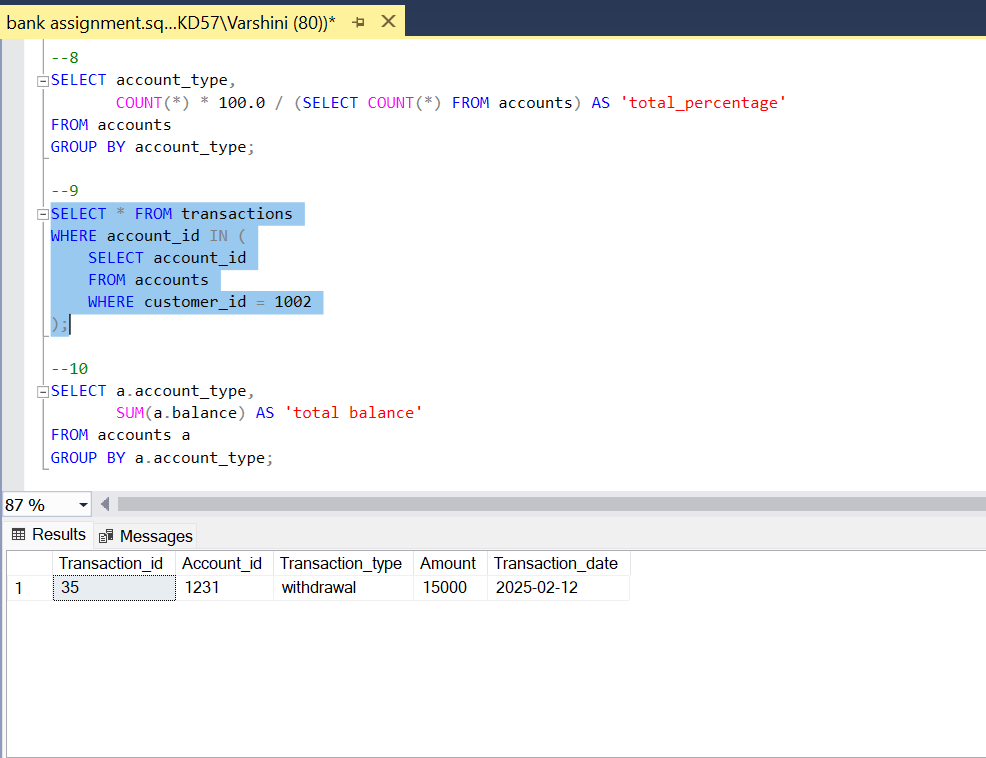
WHERE account\_id IN (

SELECT account\_id

FROM accounts

WHERE customer\_id = 1002

);



10) SELECT a.account\_type,

SUM(a.balance) AS 'total balance'

FROM accounts a

GROUP BY a.account\_type;

