

Bank Database – DQL & DML Tasks

DQL

1. Display all customer records.

The screenshot shows the Microsoft SQL Server Management Studio interface. In the Object Explorer, the 'BankingSystem' database is selected. In the center pane, a query window displays the following SQL code:

```
SELECT * FROM Customer;
```

The results pane shows the following data:

cus_ID	cus_name	cus_address	cus_phone_num	BD
1	Reem Al Hashmi	Muscat	91234567	1990-05-12
2	Sultan Al Farsi	Salalah	92345678	1985-11-20
3	Layla Al Lewati	Muscat	93456789	1992-07-30
4	Khalid Al Riyami	Seeb	94567890	1988-02-15
5	Huda Al Hashmi	Muscat	95678901	1995-09-25

At the bottom of the results pane, it says "Query executed successfully." The status bar at the bottom right shows "DESKTOP-GILBFJ0 (15.0 RTM) | DESKTOP-GILBFJ0\inoura ... BankingSystem | 00:00:00 | 5 rows".

2. Display customer full name, phone, and membership start date.

The screenshot shows the Microsoft SQL Server Management Studio interface. In the Object Explorer, the 'BankingSystem' database is selected. In the center pane, a query window displays the following SQL code:

```
SELECT cus_name, cus_phone_num, BD  
FROM Customer;
```

The results pane shows the following data:

cus_name	cus_phone_num	BD
Reem Al Hashmi	91234567	1990-05-12
Sultan Al Farsi	92345678	1985-11-20
Layla Al Lewati	93456789	1992-07-30
Khalid Al Riyami	94567890	1988-02-15
Huda Al Hashmi	95678901	1995-09-25

At the bottom of the results pane, it says "Query executed successfully." The status bar at the bottom right shows "DESKTOP-GILBFJ0 (15.0 RTM) | DESKTOP-GILBFJ0\inoura ... BankingSystem | 00:00:00 | 5 rows".

3. Display each loan ID, amount, and type.

```

SELECT loan_ID, loan_amount, loan_type
FROM Loan;

```

loan_ID	loan_amount	loan_type
3001	5000.00	Personal Loan
3002	10000.00	Car Loan
3003	15000.00	Home Loan
3004	7000.00	Education Loan
3005	12000.00	Business Loan

Query executed successfully.

4. Display account number and annual interest (5% of balance) as AnnualInterest.

```

SELECT
acc_num,
balance * 0.05 AS AnnualInterest
FROM Account;

```

acc_num	AnnualInterest
3001	2500.00
3002	500.0000
3003	375.0000
3004	600.0000
3005	150.0000

Query executed successfully.

5. List customers with loan amounts greater than 100000 LE.

banking system.sql - DESKTOP-GILBFIO.BankingSystem (DESKTOP-GILBFIO\inoure (53)) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT DISTINCT c.cus_name, l.loan_amount
FROM Customer c
JOIN Loan l ON c.cus_ID = l.cus_ID
WHERE l.loan_amount > 10000;

```

Results

cus_name	loan_amount

Query executed successfully.

6. List accounts with balances above 20000.

banking system.sql - DESKTOP-GILBFIO.BankingSystem (DESKTOP-GILBFIO\inoure (53)) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT *
FROM Account
WHERE balance > 20000;

```

Results

acc_num	balance	date_of_creation	account_type_id	cus_ID

Query executed successfully.

7. Display accounts opened in 2023.

banking system.sql - DESKTOP-GILBFIO.BankingSystem (DESKTOP-GILBFIO\inoue (53)) - Microsoft SQL Server Management Studio (Administrator)

```
SELECT *
FROM Account
WHERE YEAR(date_of_creation) = 2023;
```

Results

acc_num	balance	date_of_creation	account_type_id	cat_ID

Query executed successfully.

8. Display accounts ordered by balance descending.

banking system.sql - DESKTOP-GILBFIO.BankingSystem (DESKTOP-GILBFIO\inoue (53)) - Microsoft SQL Server Management Studio (Administrator)

```
SELECT *
FROM Account
ORDER BY balance DESC;
```

Results

acc_num	balance	date_of_creation	account_type_id	cat_ID
1	12000.00	2025-01-01	2	202
2	10000.00	2025-01-09	2	202
3	7500.00	2025-01-01	1	203
4	5000.00	2025-01-01	1	201
5	3000.00	2025-01-01	1	201

Query executed successfully.

9. Display the maximum, minimum, and average account balance.

banking system.sql - DESKTOP-GILBFIO.BankingSystem (DESKTOP-GILBFIO\inoue (53)) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT
    MAX(balance) AS MaxBalance,
    MIN(balance) AS MinBalance,
    AVG(balance) AS AvgBalance
FROM Account;

```

Results

	MaxBalance	MinBalance	AvgBalance
1	12000.00	3000.00	7500.000000

Query executed successfully.

10. Display total number of customers.

banking system.sql - DESKTOP-GILBFIO.BankingSystem (DESKTOP-GILBFIO\inoue (53)) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT COUNT(*) AS TotalCustomers
FROM Customer;

```

Results

	TotalCustomers
1	3

Query executed successfully.

11. Display customers with NULL phone numbers.

The screenshot shows the Microsoft SQL Server Management Studio interface. In the Object Explorer on the left, there is a tree view of database objects under the 'BankingSystem' database, including tables like 'Customer', 'Courses', and 'Instructors'. A query window is open in the center, containing the following SQL code:

```

SELECT *
FROM Customer
WHERE cus_phone_num IS NULL;

```

The results pane below the query window is empty, indicating no data was returned. The status bar at the bottom right shows the message "Query executed successfully".

12. Display loans with duration greater than 10 years.

This query **cannot be executed** because the database does not store loan duration or loan end date.

No duration column

DML

13. Insert yourself as a new customer and open an account with balance 10000.

```

INSERT INTO Customer VALUES
(206, 'Your Name', 'Muscat', '99999999', '2000-01-01');

INSERT INTO Account VALUES
(3006, 10000, GETDATE(), 1, 206);

```

The screenshot shows the Object Explorer on the left with the 'BankingSystem' database selected. The 'Customer' and 'Account' tables are expanded. The 'Messages' pane at the bottom right shows the results of the executed queries: '(1 row affected)' for each insert statement, with a total completion time of '2025-12-24T12:54:34.7679503+04:00'. The status bar at the bottom indicates 'Query executed successfully.'

14. Insert another customer with NULL phone and address.

```

INSERT INTO Customer VALUES
(207, 'Unknown Customer', NULL, NULL, '1999-01-01');

```

The screenshot shows the Object Explorer on the left with the 'BankingSystem' database selected. The 'Customer' table is expanded. The 'Messages' pane at the bottom right shows the result of the executed query: '(1 row affected)' with a completion time of '2025-12-24T12:54:59.5643444+04:00'. The status bar at the bottom indicates 'Query executed successfully.'

15. Increase your account balance by 20%.

The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left lists the 'BankingSystem' database with its tables, such as 'dbo.Account', 'dbo.Transaction_Type', and 'dbo.Bank_Transaction'. The 'Messages' pane at the bottom right shows the results of the executed query:

```

UPDATE Account
SET balance = balance * 1.20
WHERE cus_ID = 206;

(1 row affected)

Completion time: 2025-12-24T12:55:43.2044852+04:00

```

The status bar at the bottom indicates 'Query executed successfully.'

16. Increase balance by 5% for accounts with balance less than 5000.

The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left lists the 'BankingSystem' database with its tables, such as 'dbo.Account', 'dbo.Transaction_Type', and 'dbo.Bank_Transaction'. The 'Messages' pane at the bottom right shows the results of the executed query:

```

UPDATE Account
SET balance = balance * 1.05
WHERE balance < 5000;

(1 row affected)

Completion time: 2025-12-24T12:56:07.5721803+04:00

```

The status bar at the bottom indicates 'Query executed successfully.'

17. Update phone number to 'Not Provided' where phone is NULL.

```

banking system.sql - DESKTOP-GILBFIO.BankingSystem (DESKTOP-GILBFIO\neura (53)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help
File New Query Object Explorer Tools Execute
BankingSystem banking system.sql (DESKTOP-GILBFIO\neura (53))
Object Explorer
File Databases System Databases Database Snapshots
BankingSystem BankingSystem
Tables System Tables Full Text Tables External Tables Graph Tables
dbo.Account dbo.Account_Type dbo.Bank_Transaction dbo.Bank
dbo.Customer dbo.Employee dbo.Employee_Customer dbo.Lean
Columns Keys Constraints Triggers Indexes Statistics
Views External Resources Synonyms Programmability Service Broker Storage Security Logins Company_SD CompanyDB companyDB companyDBase
Completion time: 2025-12-24T12:56:41.9683289+04:00
(1 row affected)
150 % Messages
Query executed successfully.

```

18. Delete closed accounts.

No column indicates closed accounts in your table.

- Example (if a status column existed):

```

DELETE FROM Account
WHERE status = 'Closed';

```