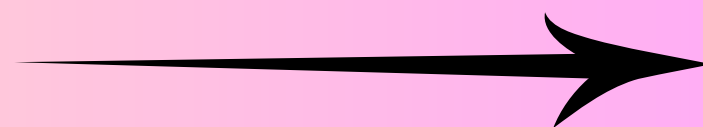


Exploring Subsets of SQL Queries

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What is Subset of Sql?

A subset of SQL is a specific part of the language that includes a defined set of commands or functionalities, like Data Definition Language (DDL), Data Manipulation Language (DML), Data Control Language (DCL), Data Query Language (DQL), or Transaction Control Language (TCL).



DDL

- Data Definition language
- Defines and manages database structures.

1. Create : Create new databases and tables.

```
CREATE TABLE table_name (  
    column1 data_type,  
    column2 data_type,  
    column3 data_type,  
    ...  
);
```



2. Alter : Modify existing database objects.

```
ALTER TABLE table_name  
ADD column_name data_type;
```

3. Drop : Remove an existing table

```
DROP TABLE table_name;
```



4. Truncate : Remove an existing table

```
TRUNCATE TABLE table_name;
```

DML

- Data Manipulation language
- Used for manipulating data within tables.

1. Insert : Add new data to a table

```
INSERT INTO table_name (column1, column2, column3, ...)  
VALUES (value1, value2, value3, ...);
```



2 . Update : Add new data to a table

```
UPDATE table_name  
SET column1 = value1, column2 = value2, ...  
WHERE condition;
```

3 . Delete : Remove data from a table.

```
DELETE FROM table_name  
WHERE condition;
```





DQL

- Data Query Language
- Used for retrieving data from databases. Query data from a table

1. **Select** : Query data from a table

```
SELECT column1, column2, ...  
FROM table_name  
WHERE condition;
```





DCL

- Data Control Language
- Used for controlling access permissions.

1. Grant :

Provide specific privileges to a user.

```
GRANT privilege_name  
ON object_name  
TO user_name;
```



2. Revoke :

Remove privileges from a user

```
REVOKE privilege_name  
ON object_name  
FROM user_name;
```



TCL

- Transaction Control Language
- Used for managing database transactions.

1. Commit :

Save changes made during the current transaction

```
COMMIT;
```



2. Rollback :


Undo changes made during the current transaction.

```
ROLLBACK;
```

3. Savepoint :

Set a rollback point within a transaction.

```
SAVEPOINT savepoint_name;
```



Interview Questions :

- **What is the difference between DROP and TRUNCATE commands?**
- **How does the ALTER TABLE command differ from the CREATE TABLE command?**
- **Explain how to rename an existing table using DDL commands.**
- **Can you differentiate between TRUNCATE and DELETE in terms of their operation and performance?**



- How would you insert multiple rows into a table using a single INSERT statement?
- What is the difference between UPDATE and INSERT commands?
- How can you delete all rows from a table but keep the table structure intact?
- What happens if you execute an UPDATE statement without a WHERE clause?



- What is the purpose of the GRANT command in SQL?
- How would you revoke all privileges from a user?
- What are the implications of revoking a privilege using the REVOKE command?
- How do you grant a user permission to select and insert data into a specific table?



- How would you retrieve all columns from a table named employees?
- What is the difference between WHERE and HAVING clauses?
- Explain how to use a JOIN clause to combine rows from two tables. What is the purpose of the COMMIT command?
- How does the ROLLBACK command function in SQL?
- What is a SAVEPOINT, and how is it used?



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Thank You

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