

SQL NOTES



* What is a Database?

⇒ A database is an organized collection of data, stored and retrieved digitally from a remote or local computer system.

Databases can be vast and complex and such databases are developed using fixed design and modeling approaches.

* What are constraints in SQL?

⇒ Constraints are used to specify the rules concerning data in the table. The constraints are:-

NOT NULL :- Restricts NULL value from being inserted into a column.

CHECK :- Verifies values in a field satisfy a condition.

UNIQUE :- Ensures unique values to be inserted in the field.

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PRIMARY KEY :- Uniquely identifies each record in a table.

FOREIGN KEY :- Ensures referential integrity for a record in other table.

* What is a Primary Key?

⇒ The PRIMARY KEY constraint uniquely identifies each row in a table. It must contain unique values and has an implicit not null constraint. A table in SQL is strictly restricted to have one and only one primary key.

* What is the select statement?

⇒ SELECT Operator in SQL is used to retrieve data from a database. The data returned is stored in a result table called the result-set.

SYNTAX: SELECT * FROM Table-name;

* What is SQL?

⇒ A SQL stands for structured Query Language. It is the standard language for relation database management systems. Handles organized data comprised of entities and relations.

* What are tables and field?

⇒ A Tables is an organized collection of data stored in the form of rows and columns. Columns can be categorized as Fields and the rows can be referred to as records.

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* What is view?

⇒ A VIEW in SQL is a virtual table based on the result set of an SQL statement. A view contains rows and columns, just like a real table.

* What is the difference between DELETE, DROP and TRUNCATE?

⇒ DELETE :- DELETES rows based on a given condition.

DROP :- The entire table and rows are dropped along with the table schema.

TRUNCATE :- delete all rows from the table but not the table schema.

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* What is Pattern matching in SQL?

⇒ SQL pattern matching provides for pattern search in data if you have no clue as to what word should it be. The LIKE operator is used in conjunction with SQL wildcards to fetch the required information.

% → represents zero, single or multiple characters.

_ → represents a single character.

Example :- Name starting with 'a'
'a %'

* What is the difference between Commit and Rollback when used in Transactions?

⇒ COMMIT :- Commit marks the end of a successful transaction. After commit, the change made by that query will be permanent and visible.

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ROLLBACK :- Used to erase all modifications made from the start of a transaction or to a savepoint.

* What are some common clauses used with the SELECT query?

⇒ WHERE :- Used to filter records based on specific conditions.

ORDER BY :- Used to sort the records based on some fields in ascending or descending order.

GROUP BY :- Used to group records with identical data.

HAVING :- Used to filter records in combination with GROUP BY clause.

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* What are aggregate functions?



An aggregate function performs operations on a collection of values to return a single scalar value.

Used with the GROUP BY and HAVING clause of the SELECT statement.

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AVG() :- Calculates mean of values.

COUNT() :- total number of records in a table or view.

MIN() :- minimum value.

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MAX() :- maximum value.

SUM() :- Calculates sum of a collection of values.