

Structured Query Language Cheat Sheet

SQL Basics

SQL

Structured query language (SQL) is a domain specific language used for programming and querying a database

SQL Data Types

Exact Numeric's:

- INTEGER
- SMALLINT
- BIGINT
- NUMERIC
- DECIMAL

Approximate Numeric's:

- REAL
- DOUBLE PRECISION
- FLOAT
- DECFLOAT

Boolean:

- INTERVAL DAY
- INTERVAL YEAR

Character Strings:

- CHARACTER
- CHARACTER VARYING (VARCHAR)
- CHARACTER LARGE OBJECT
- NATIONAL CHARACTER
- NATIONAL CHARACTER VARYING
- NATIONAL CHARACTER LARGE OBJECT

Collection Types:

- ARRAY
- MULTISET

View

It is a virtual table which is a result of a query. It is often used as a security mechanism letting users to access the data through the views

Syntax:

```
CREATE VIEW view1 AS
SELECT c1,c2
FROM t1
WHERE condition
```

Function

Aggregate Functions: It is a function where the values of multiple rows are combined to form a single value

UNION: A set operation can be used on the returned results called 'UNION' which can append the result of one query to another

Syntax:

```
SELECT col1, col2 FROM table1
UNION
SELECT col3, col4 FROM table2
```

INDEXE

It is used to speed up the performance of the queries by reducing the number of database pages to be visited

Syntax:

To create an index: CREATE INDEX index_name ON t(c1, c2)
To create an unique Index: CREATE UNIQUE INDEX index_name ON t(c3, c4)

To drop an index: DROP INDEX index_name

Stored Procedure

It is a set of SQL statements with assigned names that can be shared and reused by multiple programs

Syntax:

```
To create Procedure
CREATE PROCEDURE procedure_name
@variable AS datatype = value
AS
-- Comments
SELECT * FROM t GO
```

Using SQL Constraint

Primary Key: Set c1 and c2 as primary key

```
Syntax: CREATE TABLE t(
c1 INT, c2 INT, c3 VARCHAR,
PRIMARY KEY (c1,c2)
);
```

Foreign Key: Set c2 column as a foreign key

```
Syntax: CREATE TABLE t1(
c1 INT PRIMARY KEY,
c2 INT,
FOREIGN KEY (c2) REFERENCES t2(c2)
);
```

Trigger

It is a special type of stored procedure that automatically executes when a user tries to modify through a DML event

Syntax:

- To create or modify trigger
CREATE OR MODIFY TRIGGER
trigger_name
WHEN EVENT
ON table_name TRIGGER_TYPE
EXECUTE stored_procedure
- To delete or drop a trigger: Used to delete a specific trigger
Syntax: DROP TRIGGER trigger_name

Explanation:

WHEN:

- BEFORE: Invokes before an event occurs
- AFTER: Invokes after an event occurs

EVENT:

- INSERT: Invoke for Insert
- UPDATE: Invoke for Update
- DELETE: Invoke for Delete

TRIGGER TYPE:

- FOR EACH ROW
- FOR EACH STATEMENT

MINUS

```
SELECT C1 FROM t1
MINUS
SELECT C1 FROM t2
```

It is used to subtract the second result set from the first

NOT LIKE

```
SELECT c1 FROM t
WHERE c1 [NOT] LIKE
pattern
```

It is used to return the query of rows using the matching pattern

BETWEEN

```
SELECT c1 FROM t
WHERE c1 BETWEEN
min AND max
```

It returns the rows where c1 is between MIN and MAX

NOT NULL

```
SELECT c1 FROM t
WHERE c1 IS [NOT]
NULL
```

To check if the values are NULL or NOT NULL

FURTHERMORE:

SQL Certification Training Course

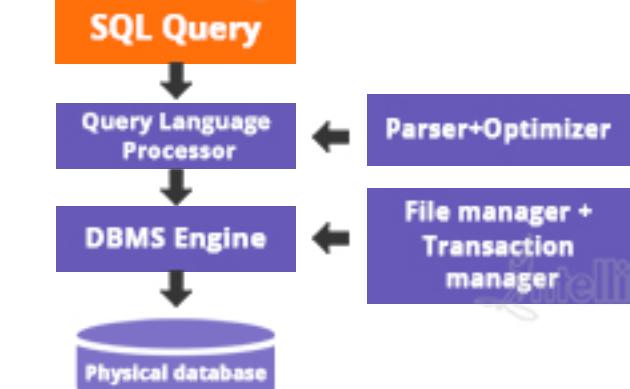


Unique

Making the values in C1 and C2 as unique

Syntax:

```
CREATE TABLE t(
c1 INT, c1 INT,
UNIQUE (c2,c3)
);
```



Function

Description

TO_DATE It is used to convert a string to date.

COALESCE Returns the first non NULL results, when querying with the columns that contain NULL

CURRENT_TIMESTAMP Returns the correct time on the database server

COUNT An aggregate function that returns the number of rows in the result set

SUM An aggregate function that sums up the values in a result set

AVG To compute the mean average of the values in the result set

MIN/MAX An aggregate function to return the largest/smallest value among the result set

LISTAGG It is used to transform values from a group of rows into a delimited string

Operator

Syntax

Description

UNION SELECT C1 FROM t1
UNION [ALL]
SELECT C1 FROM t2

Selecting column 1 for table t1 and column 2 from table t2 and combine the rows of these two queries

INTERSECT

```
SELECT C1 FROM t1
INTERSECT
SELECT C1 FROM t2
```

It is used to return the intersection of two queries