Cheatography

SQL Cheat Sheet

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General Commands

SELECT	Select data from a database.	SELECT *columns* FROM *table*;
SELECT DISTINCT	Return only distinct values.	SELECT DISTINCT *columns* FROM *table*;
WHERE	Extract records that fulfill a specified condition.	SELECT *columns* FROM *table* WHERE *condition*;
ORDER BY	Sort the result-set in ascending or descending order. *Ascending order is by default.*	SELECT *columns* FROM *table* ORDER BY *column* ASC|DESC;
LIMIT	Specify the number of records to return. OFFSET is used to skip a specified number of rows.	SELECT *columns* FROM *table* WHERE *condition* LIMIT *number* OFFSET *number*;
AND, OR and NOT	Filter records based on more than one condition. Combined with WHERE.	
The AND operator displays a record if all the conditions separated by AND are TRUE.	SELECT *columns* FROM *table* WHERE *cond1* AND *cond2*;	
The OR operator displays a record if any of the conditions separated by OR is TRUE.	SELECT *columns* FROM *table* WHERE *cond1* OR *cond2*;	

General Commands (cont)

The NOT operator displays a record if the condition(s) is NOT TRUE	SELECT *columns* FROM *table* WHERE NOT *cond*;	
BETWEEN	Selects values within a given range. The values can be numbers, text, or dates. *Is inclusive.*	SELECT *columns* FROM *table* WHERE *column* BETWEEN *value1* AND *value2*;
IN	Allows to specify multiple values in a WHERE clause. The IN operator is a shorthand for multiple OR conditions.	SELECT *columns* FROM *table* WHERE *col* IN (*value1, value2*);
GROUP BY	Groups rows that have the same values into summary rows. Is often used with aggregate functions (COUNT(), MAX(), MIN(), SUM(), AVG()) to group the result-set by one or more columns.	SELECT *columns* FROM *table* WHERE *condition* GROUP BY *columns* ORDER BY *columns*;
LIKE	Is used in a WHERE clause to search for a specified pattern in a column.	SELECT *columns*, FROM *table* WHERE *column* LIKE *pattern*;

General Commands (cont)

1. *The percent sign (%) represents zero, one, or multiple characters*
2. *The underscore sign (_) represents one, single character*

CASE	Goes through conditions and returns a value when the first condition is met (like an if-then-else statement). So, once a condition is true, it will stop reading and return the result. If no conditions are true, it returns the value in the ELSE clause. If there is no ELSE part and no conditions are true, it returns NULL.	

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CASE
WHEN condition1 THEN result1
WHEN condition2 THEN result2
WHEN conditionN THEN resultN
ELSE result
END;
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General Commands (cont)

HAVING	Was added to SQL because the WHERE keyword cannot be used with aggregate functions.	SELECT *columns* FROM *table* WHERE *condition* GROUP BY *columns* HAVING *condition* ORDER BY *columns*;

DATABASE/TABLE

CREATE SCHEMA	Create a new SQL schema	CREATE SCHEMA *sch*;
CREATE DATABASE	Create a new SQL schema	CREATE SCHEMA *sch*;
DROP SCHEMA	Drop a SQL schema	DROP SCHEMA *Sch*;
DROP DATABASE	Drop a SQL database	DROP DATABASE *db*;
SHOW DATABASES	Check the list of databases	SHOW DATABASES
BACKUP DATABASE	Create a full back up of an existing SQL database. Ex: 'E:\testD-B.bak'	BACKUP DATABASE *db* TO DISK = *'filepath'*;
	A differential back up only backs up the parts of the database that have changed since the last full database backup.	BACKUP DATABASE *db* TO DISK = *'filepath'* WITH DIFFERENTIAL;
CREATE TABLE	Create a new table in a database	CREATE TABLE *tb* (*col1 datatype*, *col2 datatype*, *col3 datatype*);

DATABASE/TABLE (cont)

A copy of an existing table can also be created using CREATE TABLE. The new table will be filled with the existing values from the old table	CREATE TABLE *tb* AS SELECT *col1, col2,...* FROM *existing tb* WHERE ....;	
DROP TABLE	Drop an existing table in a database	DROP TABLE *tb*;
TRUNCATE TABLE	Delete the data inside a table, but not the table itself.	TRUNCATE TABLE *tb*;
ALTER TABLE	Is used to add, delete, or modify columns in an existing table	
Add a column in a table	ALTER TABLE *tb* ADD *col datatype*;	
Delete a column in a table	ALTER TABLE *tb* DROP COLUMN *col*;	
Rename a column in a table	ALTER TABLE *tb* RENAME COLUMN *old_name* TO *new_name*;	
Rename a column in a table in SQL Server	EXEC sp_rename *'tb_name.old_name'*, *'new_name'*, *'COLUMN'*;	
Change the data type of a column in a table	**SQL Server / MS Access** ALTER TABLE *tb_name* ALTER COLUMN *col_name datatype*;	

DATABASE/TABLE (cont)

	My SQL / Oracle ALTER TABLE *tb_name* MODIFY COLUMN *col_name datatype*;	
	Oracle 10G and later ALTER TABLE *tb_name* MODIFY *col_name datatype*;	
Constraints	Constraints can be specified when the table is created with the CREATE TABLE statement, or after the table is created with the ALTER TABLE statement.	CREATE TABLE *tb_name* (*col1 datatype constraint, col2 datatype constraint*);

Numeric Functions

MIN()	Returns the minimum value in a set of values.
MAX()	Returns the maximum value in a set of values.
COUNT()	Returns the number of records. NULL values are not counted.
AVG()	Returns the average value of an expression. NULL values are ignored.
SUM()	Calculates the sum of a set of values. NULL values are ignored.

Arithmetic Operators

+	Add
-	Subtract
*	Multiply
/	Divide
%	Modulo

Bitwise Operators

&	Bitwise AND
|	Bitwise OR
^	Bitwise exclusive OR

Comparison Operators

=	Equal to
>	Greater than
<	Less than
>=	Greater than or equal to
<=	Less than or equal to
<>	Not equal to

Compound Operators

+=	Add equals
-=	Subtract equals
*=	Multiply equals
/=	Divide equals
%=	Modulo equals
&=	Bitwise AND equals
^-=	Bitwise exclusive equals
|*=	Bitwise OR equals

Logical Operators

ALL	TRUE if all of the subquery values meet the condition
AND	TRUE if all the conditions separated by AND is TRUE
ANY	TRUE if any of the subquery values meet the condition
BETWEEN	TRUE if the operand is within the range of comparisons
EXISTS	TRUE if the subquery returns one or more records
IN	TRUE if the operand is equal to one of a list of expressions
LIKE	TRUE if the operand matches a pattern
NOT	Displays a record if the condition(s) is NOT TRUE

Logical Operators (cont)

OR	TRUE if any of the conditions separated by OR is TRUE
SOME	TRUE if any of the subquery values meet the condition

Joining Tables

INNER JOIN	Selects records that have matching values in both tables.	SELECT *columns* FROM *table1* INNER JOIN *table2* ON *table1.col* = *table2.col*;
LEFT JOIN	Returns all records from the left table (table1), and the matching records (if any) from the right table (table2).	SELECT column_name(s) FROM table1 LEFT JOIN table2 ON table1.column_name = table2.column_name;
RIGHT JOIN	Returns all records from the right table (table2), and the matching records (if any) from the left table (table1).	SELECT column_name(s) FROM table1 RIGHT JOIN table2 ON table1.column_name = table2.column_name;
CROSS JOIN	Returns all records from both tables (table1 and table2).	SELECT column_name(s) FROM table1 CROSS JOIN table2;
SELF JOIN	A self join is a regular join, but the table is joined with itself.	SELECT column_name(s) FROM table1 T1, table1 T2 WHERE condition;

Joining Tables (cont)

UNION	Combine the result-set of two or more SELECT statements. *1) Every SELECT statement within UNION must have the same number of columns 2) The columns must also have similar data types 3) The columns in every SELECT statement must also be in the same order*
UNION Syntax. *Selects only distinct values by default. To allow duplicate values, use UNION ALL*	SELECT column_name(s) FROM table1 UNION SELECT column_name(s) FROM table2;
UNION ALL	SELECT column_name(s) FROM table1 UNION ALL SELECT column_name(s) FROM table2;

Date Functions

ADDDATE() OR DATE_ADD()	adds a time/date interval to a date and then returns the date. *ADDDATE(date, INTERVAL value addunit)* *ADDDATE(date, days)* *DATE_ADD(date, INTERVAL value addunit)*
ADDTIME()	Adds a time interval to a time/datetime and then returns the time/datetime. *ADDTIME(datetime, addtime)*

Date Functions (cont)

CURDATE()	Returns the current date. The date is returned as "-YYYY-MM-DD" (string) or as YYYYMMDD (numeric). This function equals the CURDATE() function. *CURDATE()*
CURRENT_DATE()	Returns the current date. The date is returned as "-YYYY-MM-DD" (string) or as YYYYMMDD (numeric). This function equals the CURRENT_DATE() function. *CURRENT_DATE()*
CURRENT_TIME()	Returns the current time. The time is returned as "-HH-MM-SS" (string) or as HHMMSS.uuuuuu (numeric). This function equals the CURTIME() function. *CURRENT_TIME()*
CURTIME()	Returns the current time. The time is returned as "-HH-MM-SS" (string) or as HHMMSS.uuuuuu (numeric). This function equals the CURRENT_TIME() function. *CURTIME()*
CURRENT_TIMESTAMP()	Returns the current date and time. The date and time is returned as "YYYY-MM-DD HH-MM-SS" (string) or as YYYYMMDDHHMMSS.uuuuuu (numeric). *CURRENT_TIMESTAMP()*
DATE()	Extracts the date part from a datetime expression. *DATE(expression)*
DATEDIFF()	Returns the number of days between two date values. *DATEDIFF(date1, date2)*

Date Functions (cont)	
DATE_FORMAT()	Formats a date as specified. *DATE_FORMAT(date, format)*
DATE_SUB()	Subtracts a time/date interval from a date and then returns the date. *DATE_SUB(date, INTERVAL value interval)*
DAY() OR DAYOFMONTH	returns the day of the month for a given date (a number from 1 to 31). *DAY(date) DAYOFMONTH(date)*
DAYNAME()	returns the weekday name for a given date. *DAYNAME(date)*
DAYOFWEEK()	returns the weekday index for a given date (a number from 1 to 7). 1=Sunday, 2=Monday, 3=Tuesday, 4=Wednesday, 5=Thursday, 6=Friday, 7=Saturday. *DAYOFWEEK(date)*
DAYOFWEEK(date)	returns the day of the year for a given date (a number from 1 to 366). *DAYOFYEAR(date)*
EXTRACT()	extracts a part from a given date. *EXTRACT(part FROM date)*
FROM_DAYS()	returns a date from a numeric datevalue.is to be used only with dates within the Gregorian calendar. is the opposite of the TO_DAYS() function. *FROM_DAYS(number)*
HOUR()	returns the hour part for a given date (from 0 to 838). HOUR(datetime)
LAST_DAY()	extracts the last day of the month for a given date. LAST_DAY(date)

Date Functions (cont)	
LOCALTIME() OR LOCALTIMESTAMP()	returns the current date and time. The date and time is returned as "YYYY-MM-DD HH-MM-SS" (string) or as YYYYMMDDHHMMSS.uuuuuu (numeric). LOCALTIME()
MAKEDATE()	creates and returns a date based on a year and a number of days value. MAKEDATE(year, day)
MAKETIME()	Create and return a time value based on an hour, minute, and second value. MAKETIME(hour, minute, second)
MICROSECOND()	Return the microsecond part of a datetime. MICROSECOND(datetime)