

COMMANDS		
COMMAND	CODE	DESCRIPTION
Create	CREATE DATABASE <DATABASE NAME> CREATE TABLE <TABLE NAME>	used to create a new database or table
Drop	DROP DATABASE <DATABASE NAME> DROP TABLE <TABLE NAME>	used to delete an existing database or table
Truncate	TRUNCATE TABLE <TABLE NAME>	used to delete information in the table but doesn't delete the table itself
Alter	ALTER TABLE <TABLE NAME> ADD <COLUMN NAME> <DATA TYPE> ALTER TABLE <TABLE NAME> DROP COLUMN <COLUMN NAME> ALTER TABLE <TABLE NAME> ALTER COLUMN <COLUMN NAME> <DATA TYPE>	used to delete, add or modify constraints or columns in a table
Backup	BACKUP DATABASE <DATABASE NAME> TO DISK = '<PATH>'	used to create a backup on an existing database
Insert	INSERT INTO <TABLE NAME> (<COLUMN1>, ...) VALUES (<VALUE1>, ...)	used to insert new tuples (rows) in a table <i>*you do not need to specify all columns if you will add values for all the columns</i>
Delete	DELETE FROM <TABLE NAME> WHERE <CONDITION>	used to delete tuples (rows) from a table <i>*if you don't add the WHERE clause, all rows will be deleted</i>
Update	UPDATE <TABLE NAME> SET <COLUMN NAME> = <NEW VALUE> WHERE <CONDITION>	used to modify existing records in a table
Select	SELECT <ATTRIBUTE LIST> FROM <TABLE NAME> WHERE <CONDITION>	used to select data from a table <i>*if you want all attributes of a table use (*)</i>
Union, Intersect, Except	<FIRST SELECT STATEMENT> UNION / INTERSECT / EXCEPT <SECOND SELECT STATEMENT>	equivalent to the set operations: union, intersection and difference.
In	SELECT <ATTRIBUTE LIST> FROM <TABLE NAME> WHERE <VALUE> IN <ANOTHER SELECT QUERY>	compares a value with a set of values, returns true if the value is one of the elements of the set.
Null	<ATTRIBUTE NAME> IS (NOT) NULL	used to check whether a value is NULL
Join	SELECT <ATTRIBUTES LIST> FROM <TABLE 1> JOIN <TABLE 2> ON <JOIN CONDITION> WHERE <SELECTION CONDITION>	used to join two tables based on a related column between them



COMMANDS (cont)

Assertion	CREATE ASSERTION <ASSERTION NAME> CHECK (<CONDITION>)	used to ensure a certain condition is always met in the database
Trigger	CREATE TRIGGER <TRIGGER NAME> BEFORE / AFTER INSERT / UPDATE / DELETE ON <TABLE NAME> FOR EACH ROW <TRIGGER BODY>	Triggers are activated when a defined action is executed for the table
Data Types	Numeric - INT, SMALLINT, DECIMAL(i, j) String - CHAR, CHAR(n), VARCHAR(n) Bit String - BIT, BIT(n) Date and Time - DATE, TIME, TIME(i) Timestamp - TIMESTAMP	
Referential Triggered Action	ON DELETE <OPTION> ON UPDATE <OPTION>	used to set what happens on updating or deleting a tuple (row) in the database that references another row OPTIONS: SET NULL SET DEFAULT CASCADE
Renaming (Aliasing)	<TABLE NAME> AS <NEW TABLE NAME> (<NEW ATTRIBUTE 1 NAME>,)	Relation and attribute names can be renamed for convenience or to remove ambiguity using the keyword AS
Cross Product (.)	SELECT <ATTRIBUTE LIST> FROM <TABLE 1>, <TABLE 2>	used to produce a result table that has the number of rows of the first table multiplied by the number of rows of the second table
Duplicates	SELECT ALL <ATTRIBUTE LIST> FROM <TABLE NAME> <ATTRIBUTE> LIKE <PATTERN> <ATTRIBUTE NAME> IS (NOT) NULL SELECT <ATTRIBUTES LIST> FROM <TABLE 1> JOIN <TABLE 2> ON <JOIN CONDITION> WHERE <SELECTION CONDITION> SELECT DISTINCT <ATTRIBUTE LIST> FROM <TABLE NAME>	DISTINCT is used to eliminate duplicates ALL is used to allow duplicates <i>*SELECT without ALL or DISTINCT is equivalent to ALL</i>
String Comparisons	<ATTRIBUTE> LIKE <PATTERN>	LIKE is used for string comparison (%) replaces an arbitrary number of characters (_) replaces one character



COMMANDS (cont)

Arithmetic # (+) add # (*) multiply

Operators # () subtract # (/) divide

Ordering <SELECT STATEMENT>
ORDER BY <ATTRIBUTE> <ASC / DESC>

ORDER BY is used to order the resulting tuples
The keyword **ASC** (ascending) and **DESC** can be used. **The default is ASC (ascending)*

Set Comparisons SELECT <ATTRIBUTE LIST>
FROM <TABLE NAME>
WHERE <VALUE> > ALL / ANY <ANOTHER SELECT QUERY>

ANY and **ALL** can be used with (=, >, >=, <, <=, <>) to compare a value with a set

#CONTAINS Compares two sets and returns true if one set contains the other

#EXISTS It checks whether the result of a nested query is empty or not

#UNIQUE checks if the table has duplicates

Aggregate
Functions

#COUNT - Counts how many rows in a particular column

#SUM - adds together all the values in a particular column

#MIN returns the minimum value in a column

#MAX returns the maximum value in a column

#AVG - returns the average of a group of selected values

Types of Join

Inner join
Left Join
Right Join
Full Outer Join

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Page 3 of 3.

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