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| **What dose it do** | **SQL Statement** | **Syntax** | **Example** |
| Summon specific data from table | SELECT | SELECT column nameFROM table name | SELECT L\_NameFROM Lecturer |
| Summon all data from a table | SELECT \* | SELECT \*FROM table name | SELECT \*FROM Lecturer |
| Remove redundancy | SELECT DISTINCT | SELECT DISTINCT column nameFROM table name | SELECT DISTINCT AdvisorFROM Student |
| Put restrictions on the Summoned data | WHERE | SELECT column nameFROM table nameWHERE column name operator value | Select First\_Name from Studentwhere Grade=50 |
| Used to apply aggregate functions like COUNT(), MIN() , MAX()…etcwith other columns  | GROUP BY | SELECT column name, aggregate\_function(column\_name)FROM table\_nameGROUP BY column\_name | SELECT Advisor, COUNT(Student\_ID) FROM StudentGROUP BY Advisor;SELECT Advisor, Avg(Age)FROM StudentGROUP BY Advisor; |
| Put restrictions on the Group Statement | HAVING | SELECT column name, aggregate\_function(column\_name)FROM table\_nameWHERE column name operator valueGROUP BY column nameHAVING aggregate\_function(column\_name) operator value | SELECT Advisor, COUNT(Student\_ID) as N\_StudentFROM StudentGROUP BY AdvisorHAVING COUNT(Student\_ID) >1 |
| Put the Summoned data in a certain order  | ORDER BY | SELECT column nameFROM table\_nameORDER BY column name [ASC|DESC] | SELECT l\_Id, L\_NameFROM LecturerORDER BY L\_Name DESC ; |
| a restrictions in the WHERE Statement | AND / OR | SELECT column nameFROM table\_nameWHERE conditionAND|OR condition | SELECT \*FROM StudentWHERE Grade < 45 AND Age> 20; |
| a restrictions in the WHERE Statement | BETWEEN | SELECT column nameFROM table\_nameWHERE column nameBETWEEN value1 AND value2 | SELECT L\_Id, L\_NameFROM LecturerWHERE L\_ID BETWEEN 2 AND 4; |
| Rename columns | AS (alias) | SELECT column name AS column\_aliasFROM table\_name  | SELECT first\_Name AS KSU\_StudentFROM Student; |
| a restrictions in the WHERE Statement | LIKE | SELECT column nameFROM table\_nameWHERE column name LIKE pattern | SELECT L\_Id, L\_NameFROM LecturerWHERE L\_Name LIKE '%S%'; |
| Summon data from different tables | INNER JOIN | SELECT column nameFROM table\_name1INNER JOIN table\_name2 ON table\_name1.columnname=table\_name2.column\_name | SELECT First\_Name, L\_NameFROM Student, LecturerWHERE Lecturer.L\_ID = A\_ID; SELECT First\_Name, L\_NameFROM Lecturer INNER JOIN Student ON Lecturer.L\_ID = Student.A\_ID; |

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| Create New table | CREATE TABLE | CREATE TABLE table\_name(column\_name1 data\_type,column\_name2 data\_type,...) | CREATE TABLE Room(RNO int,RDescription Text); |
| Add data to a certain table | INSERT INTO | INSERT INTO table\_nameVALUES (value1, value2, value3,....) *or*INSERT INTO table\_name(column1, column2, column3,...)VALUES (value1, value2, value3,....) | INSERT INTO StudentVALUES (10, 'Mohamed','Saman',24, 15,'Dr.Ali', 1); INSERT INTO Student(Student\_ID,Age)VALUES (11, 15); |
| Change data in a table | UPDATE | UPDATE table\_nameSET column1=value, column2=value,...WHERE some\_column=some\_value | UPDATE StudentSET First\_Name='Ali', A\_ID=2, Advisor='Dr.Ahmed'WHERE Student\_ID=1000; |
| Change the criteria of a table  | ALTER TABLE | ALTER TABLE table\_name ADD column name datatype orALTER TABLE table\_name DROP COLUMN column name datatype | ALTER TABLE StudentADD A\_Date Date;ALTER TABLE StudentDROP COLUMN A\_Date; |
| Delete data in a table | DELETE | DELETE FROM table\_nameWHERE some\_column=some\_value orDELETE FROM table\_name (**Note:** Deletes the data inside the table!!) | DELETE FROM LecturerWHERE L\_ID =1DELETE FROM LecturerWHERE L\_ID BETWEEN 2 AND 4; |
| Delete a table from a database | DROP TABLE | DROP TABLE table\_name | DROP TABLE Room; |