Assignment 2

Explain the following clauses -
1) SELECT
2) WHERE
3) LOGICAL OPERATORS
4) STRING COMPARISON & PATTERN MATCHING
5) BETWEEN NOT BETWEEN
6) ORDER BY
7) GROUP BY
8) LIMIT
9) DISTINCT.

1) <u>SELECT Statement</u> - The SELECT statement is used to select data from a database. The data returned is stored in a result table called as the result set.

SELECT column1, column2, ...
FROM table_name;
here column1 and column2 are the field names of the table you want to select the data from.

If you want to select all the fields available,
SELECT * from tablename;

2) <u>WHERE</u> - The WHERE clause is used to filter records. It is used to extract only those records that fulfill a specified condition.
SELECT column1, column2
FROM tablename WHERE condition;

The WHERE clause is not used only in the SELECT statements but also UPDATE, DELETE, etc.

LOGICAL OPERATORS — Logical operators return true or false. They return true or false values and can be used in a ~~comp~~ combined manner. There are 3 logical operators —

1) And — Logical And compares 2 boolean expressions and returns true when both expressions are true.

2) OR — Logical OR compares 2 boolean expressions and returns true if at least either one of them is true.

3) Not — NOT takes an expression as an argument and changes its value from false to true and from true to false.

~~String Comparison and Pattern Matching~~
ANY and ALL are also logical operators. They allow you to perform a comparison bet" a single column value and a range of other values.

The ANY operator returns a TRUE value if any of the subquery values meet the condition.

The ALL operator returns true if all of the subquery values meet the condition. The ALL operator is used with SELECT, WHERE & HAVING statements.

String Comparison & Pattern Matching –

STRCMP() function is used to compare 2 strings. If both strings are the same, it returns 0. If the 1st argument is smaller than the 2nd then it returns -1 and if the 1st argument is greater than the second then +1 is returned.

STRCMP (string1, string2)

The LIKE operator is used in a where clause to search for a specified pattern in a column. There are 2 wildcards used in conjunction with the LIKE operator.

The percent sign (%) represents 0, 1 or multiple characters.

The underscore sign (_) represents one single character.

SELECT column1, column2, ...
FROM table_name
WHERE columnN LIKE pattern;

BETWEEN, NOT BETWEEN –
The BETWEEN operator selects values within a given range. The values can be numbers, text or dates. The BETWEEN operator is inclusive:- begin and end values are included.

SELECT column_name(s)
FROM table_name
WHERE columnname BETWEEN value1 AND value2;

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NOT BETWEEN — It is used to match all values against a range of values excluding the values in the mentioned range itself.

ORDER BY — The ORDER BY keyword is used to sort the result set in ascending or descending order. The ORDER BY keyword sorts the results in ascending order by default. To sort the records in descending order, use the DESC keyword.

SELECT column1, column2 ...
FROM table_name
ORDER BY column1, column2 ... ASC/DESC;

GROUP BY — The GROUP BY statement groups rows that have the same values into summary rows like "find the no. of customers in each country". The GROUP BY clause is often used with aggregate functions (COUNT(), MAX(), MIN(), SUM(), AVG()) to group the result set by one/more columns. eg—

SELECT column_names FROM table_name
WHERE condition
GROUP BY column_names
ORDER BY column_names;

LIMIT — The LIMIT clause is used to set an upper limit on the no. of tuples returned by SQL.
eg—

SELECT column_names FROM table_name WHERE condition
GROUP BY column_name ORDER BY column_name LIMIT5;

DISTINCT clause — It is used to list all the distinct values taken by an attribute. It is used in conjunction with SELECT keyword

eg —

SELECT Distinct(Book_Name) FROM Books;