Experiment-5

Aim:-To apply built-in single row functions to analyze the university database.

Description:

Built-in functions are single row predefined functions provided by the programming-languages to perform specific task or operations.

These functions are built into the core of the language and shipped along with the language distributions. They are often optimized for efficiency and readability and they cover a wide range of functionality.

Note:- paste snapshot of the table that you are using for query execution. And paste the query along with result after syntax of function

1)UPPER():- is a string function in MySQL that converts all lowercase letters in a string to uppercase.

Syntax:- UPPER(string)

Output snapshot

2)LOWER():- is a string function in MySQL that converts all uppercase letters in a string to lowercase.

Syntax:- LOWER(string)

Output snapshot

3)CONCAT():- is a string function in MySQL that joins two or more strings into one single string.

Syntax:- CONCAT(string1, string2, ..., string-N)

Output snapshot

4)SUBSTR():-is a string function in MySQL used to extract a substring from a given string, starting at a specified position and optionally for a specified length.

Syntax:- SUBSTR(str, start\_pos [, length])

Output snapshot

5)LTRIM():- is a string function in MySQL that removes all leading spaces (spaces on the left side) from a string.

Syntax:- LTRIM(string)

Output snapshot

6)LPAD() (Left Pad):- is a string function in MySQL that pads a string on the left with another string (usually a character), until it reaches a specified length.

Syntax:- LPAD(original\_string, total\_length, pad\_string)

Output snapshot

7)LEFT() :- is a string function in MySQL that extracts a specified number of characters from the left (beginning) of a string.

Syntax:- LEFT(string, length)

Output snapshot

8)DAY MONTH YEAR :-These are date functions in MySQL used to extract the day, month, or year from a given DATE or DATETIME value.

Syntax:

DAY(date) -- Extracts the day (1 to 31)

MONTH(date) -- Extracts the month (1 to 12)

YEAR(date) -- Extracts the year (e.g., 2025)

Output snapshot

9)CASE:- is a conditional expression in MySQL that works like an IF-ELSE block. It allows you to perform conditional logic in SQL queries, especially useful for creating new computed columns based on conditions.

Syntax:- CASE expression

WHEN value1 THEN result1

WHEN value2 THEN result2

...

ELSE result

END

Output snapshot

10)LENGTH():- is a string function in MySQL that returns the length of a string in bytes.

Syntax:- LENGTH(string)

Output snapshot

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Experiment No-6

Aim:to apply grouping ordering and aggregation operations

1)MAX() is an aggregate function in MySQL that returns the maximum value from a set of values (like the highest number or latest date).

Syntax:-SELECT MAX(column\_name) FROM table\_name;

Output snapshot

2)MIN() is an aggregate function in MySQL that returns the minimum value from a set of values (like the smallest number or earliest date).

Syntax:-SELECT MIN(column\_name) FROM table\_name;

Output snapshot

3)AVG() is an aggregate function in MySQL that returns the average (mean) value of a numeric column.

Syntax:-SELECT AVG(column\_name) FROM table\_name;

Output snapshot

4)COUNT() is an aggregate function in MySQL that returns the number of rows that match a specified condition or expression.

Syntax:-SELECT COUNT(column\_name) FROM table\_name;

Output snapshot

5)SUM() is an aggregate function in MySQL that returns the total (sum) of values in a numeric column.

Syntax:-SELECT SUM(column\_name) FROM table\_name;

Output snapshot

6)SELECT SUM(column\_name) FROM table\_name;

Syntax:-SELECT column1, AGGREGATE\_FUNCTION(column2)

FROM table\_name

GROUP BY column1;

Output snapshot

7)HAVING is used in MySQL to filter grouped results after using the GROUP BY clause.

It works like WHERE, but on aggregate functions like SUM(), COUNT(), AVG(), etc.

Syntax:-

SELECT column1, AGGREGATE\_FUNCTION(column2)

FROM table\_name

GROUP BY column1

HAVING condition;

Output snapshot

8)ORDER BY is used in MySQL to sort the result set of a query by one or more columns, either in ascending (ASC) or descending (DESC) order.

Syntax:-

SELECT column1, column2, ...

FROM table\_name

ORDER BY column1 [ASC | DESC], column2 [ASC | DESC], ...;

Output snapshot