Module 12:   Built in Functions

Functions:

❑ Functions are simply pieces of code that

❑ Some functions accept parameters while other functions do not accept parameters.

Types of Functions:

❑ MySQL supports two types of functions:

- Built In Functions(BIF)
- User Defined Functions (UDF)

Built In Functions:

❑ MySQL has a number of built-in functions that allow us to perform different types of manipulations on the data.

❑ MySQL functions can be categorized into following types:

- String Functions
- Numerical or Mathematical functions.

String Functions:

✓ **length(str):** It returns the number of characters in the string.

✓ **lower(str):** it returns a string converted to lowercase letters.

✓ **upper(str):** it returns a string converted to uppercase letters.

✓ **concat(str1 [,str2]…):** It concatenates the specified strings.

✓ **Note:**   If one the string is null then result is null.

✓ **concat_ws(**sep, exp1, exp2,…): It concatenates two or more expressions together and adds separator between them.

- **Note1:** if sep is null then it returns null.
- **Note2**: if any exp contains null then its ignored.

✓ **ltrim(str):** It removes leading spaces from a string
✓ **rtrim(str):** It removes trailing spaces from a string.

- ✓ **left (str, length):/ right(str, length):** It returns the specified number of characters from the beginning / end of the string.
  - ○ Note: if length is null it returns null.
- ✓ **reverse(str):** It returns a string with the characters in reverse order.
- ✓ **replace(search_string, find_string, replace_string):** It returns the search string with all occurrences of the find string replaced with replace string.

String MCQ's:

Q1) What is the result of the following: **select length(5+20);**
Options:

A. 520	B. error
C. 2	D. 4

Solution:

Q2) What is the result of the following: **select length('kamal'+2);**
Options:

A. 1	B. kamal2
C. 7	D. 52

Solution:

Q3) What is the result of the following: **select concat("5+7", 6+2);**
Options:

A. 128	B. 5+76+2
C. 5762	D. 5+78

Solution:

Q4) What is the result of the following: **select trim('aa r am');**
Options:

A. aa r am	B. aar am
C. error	D. aaram

Solution:

Q5) What is the result of the following:

select concat(left('java', 2) , right('python', 3));

Options:

A. jahon	B. vahon
C. japyt	D. vaon

Solution:

Q6) What is the result of the following:

select right(reverse(upper(replace('viral', 'r', 'sh'))), 3);

Options:

A. erro

B. siv

C. vish

D. SIV

Solution:

Q7) What is the result of the following:

select concat(replace(left('hindustan', 5), 'u', 'i'), 'medium');

Options:

A. hindmedium

B. hindimedium

C. hindumediim

D. istanmedium

Solution:

Numerical Functions:

- ✓ **sqrt(number):** It returns square root of the number.

- ✓ **power(number, power):** It returns the number raised to the specified power.

- ✓ **floor(number):** It returns the largest integer that is less than or equal to the number

- ✓ **ceiling(number):** It returns the largest integer that is greater than or equal to the number

- ✓ **round(number [,LENGTH]):** It returns the number rounded to the precision specified by length.

    - ○ If length = 0 (default) the decimal digits are omitted.

- ✓ **truncate(number ,LENGTH) :** It returns the number truncated to the precision specified by length.

    - ○ If length is 0, the decimal digits are omitted.

- ✓ **rand([integer]) :** It returns a random floating point number between 0 and 1.

Q1) What is the result of the following:

$$\text{select power(floor(3.678), 2);}$$

Options:

A. 9   B. 3

C. 6   D. 13.527

Solution:

Q2) What is the result of the following:

$$\text{select floor(rand() * 5);}$$

Options:

A. random integer between 1 to 4.

B. random integer between 1 to 5.

C. random floating number between 0.0 and 4.0.

D. random integer between 0 to 4.

Solution:

Q3) What is the result of the following:

$$\text{select ceiling(floor(truncate(34.56, 2)));}$$

Options:

A. 35   B. 34
C. 30   D. error
Solution: