Name : Deepankar Sharma

Course: BCA

University Roll No: 2092014

Student Id : 20041299

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**Practical 03: Implementation of Different Functions**

**Objective:**  Implementation of different types of function with suitable examples

**NUMERICAL FUNCTION:**

**1-ROUND:**

**DEFINITION:**It returns a number rounded to a certain number of decimal places.

**SYNTAX:**select round(decimal value);

**EXAMPLE:**

mysql> select \* from report;

+--------+------+------------+-------+

| sname | s\_id | percentage | marks |

+--------+------+------------+-------+

| harsh | 16 | 49 | 512 |

| sumit | 25 | 164 | 64 |

| suhash | 26 | 16.78 | 49 |

| ram | 75 | 169 | 81 |

| karma | 85 | -169 | 81 |

+--------+------+------------+-------+

5 rows in set (0.00 sec)

mysql> update report set percentage=round(16.78)

-> where sname='suhash';

Query OK, 1 row affected (0.02 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> select \* from report;

+--------+------+------------+-------+

| sname | s\_id | percentage | marks |

+--------+------+------------+-------+

| harsh | 16 | 49 | 512 |

| sumit | 25 | 164 | 64 |

| suhash | 26 | 17 | 49 |

| ram | 75 | 169 | 81 |

| karma | 85 | -169 | 81 |

+--------+------+------------+-------+

5 rows in set (0.00 sec)

**2-POWER**

**DEFINITION:**It returns m raised to the nth power.

**SYNTAX:**select pow(m,n);

**EXAMPLE:**

mysql> select \* from report;

+--------+------+------------+-------+

| sname | s\_id | percentage | marks |

+--------+------+------------+-------+

| harsh | 16 | 49 | 512 |

| sumit | 25 | 164 | 64 |

| suhash | 26 | 17 | 49 |

| ram | 75 | 169 | 81 |

| karma | 85 | -169 | 81 |

+--------+------+------------+-------+

5 rows in set (0.00 sec)

mysql> update report set s\_id=power(16,2)

-> where sname='harsh';

Query OK, 1 row affected (0.02 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> select \* from report;

+--------+------+------------+-------+

| sname | s\_id | percentage | marks |

+--------+------+------------+-------+

| sumit | 25 | 164 | 64 |

| suhash | 26 | 17 | 49 |

| ram | 75 | 169 | 81 |

| karma | 85 | -169 | 81 |

| harsh | 256 | 49 | 512 |

+--------+------+------------+-------+

5 rows in set (0.01 sec)

**3-ABS-**

**DEFINITION:**It returns absolute value of a number.

**SYNTAX:**select abs(number);

**EXAMPLE:**

mysql> select \* from report;

+--------+------+------------+-------+

| sname | s\_id | percentage | marks |

+--------+------+------------+-------+

| sumit | 25 | 164 | 64 |

| suhash | 26 | 17 | 49 |

| ram | 75 | 169 | 81 |

| karma | 85 | -169 | 81 |

| harsh | 256 | 49 | 512 |

+--------+------+------------+-------+

5 rows in set (0.01 sec)

mysql> update report set percentage=abs(-169)

-> where sname='karma';

Query OK, 1 row affected (0.02 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> select \* from report;

+--------+------+------------+-------+

| sname | s\_id | percentage | marks |

+--------+------+------------+-------+

| sumit | 25 | 164 | 64 |

| suhash | 26 | 17 | 49 |

| ram | 75 | 169 | 81 |

| karma | 85 | 169 | 81 |

| harsh | 256 | 49 | 512 |

+--------+------+------------+-------+

5 rows in set (0.01 sec)

**4-MOD:**

**DEFINITION:**It returns the remainder of n divided by m.

**SYNTAX:**select mod(n,m);

**EXAMPLE:**

mysql> select \* from report;

+--------+------+------------+-------+

| sname | s\_id | percentage | marks |

+--------+------+------------+-------+

| sumit | 25 | 164 | 64 |

| suhash | 26 | 17 | 49 |

| ram | 75 | 169 | 81 |

| karma | 85 | -169 | 81 |

| harsh | 256 | 49 | 512 |

+--------+------+------------+-------+

5 rows in set (0.01 sec)

mysql> update report set percentage=mod(percentage,16)

-> where sname='sumit';

Query OK, 0 rows affected (0.00 sec)

Rows matched: 1 Changed: 0 Warnings: 0

mysql> select \* from report;

+--------+------+------------+-------+

| sname | s\_id | percentage | marks |

+--------+------+------------+-------+

| sumit | 25 | 0.640625 | 64 |

| suhash | 26 | 17 | 49 |

| ram | 75 | 169 | 81 |

| karma | 85 | 169 | 81 |

| harsh | 256 | 49 | 512 |

+--------+------+------------+-------+

5 rows in set (0.00 sec)

**STRING FUNCTION:**

**1-UPPER/UCASE:**

**DEFINITION:Changes selected string to upper case.**

**SYNTAX:**> select lower('string'), upper('string') from table\_name;

**EXAMPLE:**mysql> select lower('sumit'), upper('sumit') from report;

+----------------+----------------+

| lower('sumit') | upper('sumit') |

+----------------+----------------+

| sumit | SUMIT |

| sumit | SUMIT |

| sumit | SUMIT |

| sumit | SUMIT |

| sumit | SUMIT |

+----------------+----------------+

5 rows in set (0.01 sec)

**2-LEFT\RIGHT:**

**DEFINITION:**Used to extract a specific number of characters from the left and right side of a string.

**SYNTAX:**select left(column\_name,no. of characters to be selected),right(column\_name,no. of characters to be selected);

**EXAMPLE:**mysql> select \* from report;

+--------+------+------------+-------+

| sname | s\_id | percentage | marks |

+--------+------+------------+-------+

| sumit | 25 | 164 | 64 |

| suhash | 26 | 17 | 49 |

| ram | 75 | 169 | 81 |

| karma | 85 | -169 | 81 |

| harsh | 256 | 49 | 512 |

+--------+------+------------+-------+

5 rows in set (0.01 sec)

mysql> select left(sname,3), right(sname,3) from report;

+---------------+----------------+

| left(sname,3) | right(sname,3) |

+---------------+----------------+

| sum | mit |

| suh | ash |

| ram | ram |

| kar | rma |

| har | rsh |

+---------------+----------------+

5 rows in set (0.00 sec)

**3-LTRIM/ RTRIM:**

**DEFINITION:**They are used to remove additional spaces from the left and right sides of an input string.

**SYNTAX:**select rtrim('string '),ltrim(' string ') from table\_name;

**EXAMPLE:**

mysql> select rtrim('sumit '),ltrim(' sumit ') from report;

+---------------------+----------------------------+

| rtrim('sumit ') | ltrim(' sumit ') |

+---------------------+----------------------------+

| sumit | sumit |

| sumit | sumit |

| sumit | sumit |

| sumit | sumit |

| sumit | sumit |

+---------------------+----------------------------+

5 rows in set (0.00 sec)

**4-MID:**

**DEFINITION:**This functin extracts a substring from a string(starting at any position).

**SYNTAX:**select mid('string',starting char,no. of characters to be extracted) from table\_name;

**EXAMPLE:**

mysql> select mid('sname',2,1) as midname;

+---------+

| midname |

+---------+

| n |

+---------+

1 row in set (0.00 sec)

**5-LENGTH\len:**

**DEFINITION:**It is used to find the numbers of characters in a string.

**SYNTAX:**select length('string') from table\_name.

**EXAMPLE:**mysql> select length('percentage') as example;

+---------+

| example |

+---------+

| 10 |

+---------+

1 row in set (0.00 sec)

**6-TRIM:**

**DEFINITION:It removes all spaces.**

**SYNTAX:**select trim(' string ') as example;

**EXAMPLE:**

mysql> select trim(' percentage ') as example;

+------------+

| example |

+------------+

| percentage |

+------------+

1 row in set (0.00 sec)

**7-INSTR:**

**DEFINITION:It detects the first occurence of a string or a character in the other string.**

**SYNTAX:**select instr(' string',value position to be finded) as example;

**EXAMPLE:**

mysql> select instr(' pe23rcentage',3) as example;

+---------+

| example |

+---------+

| 11 |

+---------+

1 row in set (0.00 sec)