# Practical 6

## 1. Numeric Functions:

**A) Absolute:** The Abs() function is used to calculate the absolute value of an expression.

```
SQL> select abs(5) from dual;

    ABS(5)
----------
         5

SQL> select abs(-5) from dual;

   ABS(-5)
----------
         5
```

**B) Ceil:** Ceil () function returns the smallest integer value that is greater than or equal to a number.

```
SQL> select ceil(11.2) from dual;

CEIL(11.2)
----------
        12

SQL> select ceil(11) from dual;

  CEIL(11)
----------
        11

SQL> select ceil(11.78) from dual;

CEIL(11.78)
-----------
         12
```

**C) Floor:** The Floor() function returns the largest integer value that is smaller than or equal to a number.

```
SQL> select floor(16.2) from dual;

FLOOR(16.2)
-----------
         16

SQL> select floor(16) from dual;

 FLOOR(16)
----------
        16

SQL> select floor(16.82) from dual;

FLOOR(16.82)
------------
          16
```

**D) Square Root:** Sqrt() function returns the square root of a numeric input.

```
SQL> select sqrt(49) from dual;

  SQRT(49)
----------
         7
```

**E) Module:** Mod() function is used to return the remainder of a dividend divided by a divisor.

```
SQL> select mod(10,3) from dual;

 MOD(10,3)
----------
         1
```

**F) Round:** The Round() function rounds a number to a specified number of decimal places.

```
SQL> select round(15.43) from dual;

ROUND(15.43)
------------
          15
```

**G) Remainder:** Remainder() function returns the remainder of first number divided by second number.

```
SQL> select remainder(10,3) from dual;

REMAINDER(10,3)
---------------
              1
```

**H) Power:** Power() function is used to return the value of a number raised to the power of another number.

```
SQL> select power(5,3) from dual;

POWER(5,3)
----------
       125
```

**I) Truncate:** Trunc() function is used to truncate a number to a specified number of decimal places.

```
SQL> select trunc(14.5623,2) from dual;

TRUNC(14.5623,2)
----------------
           14.56
```

**J) Exponential:** The Exp() function returns e raised to the power of a specified number.

```
SQL> select exp(2) from dual;

    EXP(2)
----------
 7.3890561
```

**K) Logarithm:** Log() function is used to return the logarithm.

```
SQL> select log(10,100) from dual;

LOG(10,100)
-----------
          2
```

## 2. Character Functions:

**A) Lower:** Lower() function converts all letters in a string to lowercase.

```
SQL> select lower('AAYUSH') from dual;

LOWER(
------
aayush
```

**B) Upper:** Upper() function converts all letters in a string to uppercase.

```
SQL> select upper('aayush') from dual;

UPPER(
------
AAYUSH
```

**C) Initcap:** Initcap() function sets the first letter of each word in uppercase, all other letters in lowercase.

```
SQL> select initcap('HI,AAYUSH HERE') from dual;

INITCAP('HI,AA
--------------
Hi,Aayush Here
```

**D) Length:** Length() function returns the number of characters of a specified string.

```
SQL> select length('It was a good day to travel') from dual;

LENGTH('ITWASAGOODDAYTOTRAVEL')
-------------------------------
                             27
```

**E) Substr:** The Substr() functions returns the specified number of characters from a particular position of a given string.

```
SQL> select substr('It was a good day to travel',4,25) from dual;

SUBSTR('ITWASAGOODDAYTOT
------------------------
was a good day to travel
```

**F) Concat:** Concat() function retur ns the result of concatenating two string values.

```
SQL> select concat('Heyy,','How are you?') from dual;

CONCAT('HEYY,','H
----------------
Heyy,How are you?
```

**G) Instr:** Instr() function returns the location of a substring in a string.

```
SQL> select instr('It was a good day to travel','my') from dual;

INSTR('ITWASAGOODDAYTOTRAVEL','MY')
-----------------------------------
                                  0
```

**H) Trim:** Trim() function removes spaces or specified characters from the begin, end or both ends of a string.

```
SQL> select trim(leading '2' from '2343552') from dual;

TRIM(L
------
343552

SQL> select trim(trailing '4' from '23435574') from dual;

TRIM(TR
-------
2343557
```

**I) Rtrim:** Rtrim() function removes all specified characters from the right-hand side of a string.

```
SQL> select rtrim('23435574','4,' ) from dual;

RTRIM('
-------
2343557
```

**J) Ltrim:** Ltrim() function removes all specified characters from the left-hand side of a string.

```
SQL> select ltrim('23435574','2,' ) from dual;

LTRIM('
-------
3435574
```

**K) Translate:** Translate() function returns a string with all occurrences of each character in a string replaced by its corresponding character in another string.

```
SQL> select translate('123456789','456','%' ) from dual;

TRANSLA
-------
123%789
```

**L) Replace:** Replace() function replaces a sequence of characters in a string with another set of characters.

```
SQL> select replace('123456789','78','%' ) from dual;

REPLACE(
--------
123456%9
```

**M) Rpad:** Rpad() function is used to padding the right side of a string with a specific set of characters.

```
SQL> select rpad('aay',6,'&') from dual;

RPAD('
------
aay&&&
```

**N) Lpad:** Lpad() function is used to padding the left side of a string with a specific set of characters.

```
SQL> select lpad('aay',6,'&') from dual;

LPAD('
------
&&&aay
```

## 3. Date Functions:

**A) Sysdate:** Sysdate() returns the current date set for the operating system on which the database resides.

```
SQL> select sysdate from dual;

SYSDATE
---------
28-FEB-21
```

**B) Next_day:** Next_day() function returns the date of the first weekday specified by day name that is later than a date.

```
SQL> select next_day(sysdate,'monday') from dual;

NEXT_DAY(
---------
01-MAR-21
```

**C) Last_day:** The Last_day() function returns the last day of the month that contains a date.

```
SQL> select last_day(sysdate) from dual;

LAST_DAY(
---------
28-FEB-21
```

**D) Add_months:** Add_months() function returns a date with a specified number of months added.

```
SQL> select add_months(sysdate,+2) from dual;

ADD_MONTH
---------
30-APR-21
```

**E) Months_between:** Months_between() function is used to get the number of months between dates.

```
SQL> select months_between(sysdate,'28-december-2021') from dual;

MONTHS_BETWEEN(SYSDATE,'28-DECEMBER-2021')
------------------------------------------
                                       -10

SQL> select months_between('28-december-2021',sysdate) from dual;

MONTHS_BETWEEN('28-DECEMBER-2021',SYSDATE)
------------------------------------------
                                        10
```

**F) Systimestamp:** Systimestamp() function returns a timestamp with time zone value that represents the system date and time including fractional seconds and time zone.

```
SQL> select systimestamp from dual;

SYSTIMESTAMP
---------------------------------------------------------------------------
28-FEB-21 01.49.43.419000 AM +05:30
```

**G) Current_date:** Current_date() function returns the current date in the session time zone, in a value in the Gregorian calendar of datatype date.

```
SQL> select current_date from dual;

CURRENT_D
---------
28-FEB-21
```