**FUNCTION**

1. Functions are **nothing but reusable program** which returns some output.
2. In order to call the function we sure pass input (inputs maybe called as for parameters or arguments).

**Types of function:**

1. Build in function (pre-defined function)
2. User defined function

Functions are very powerful **features** of SQL and can be used to do the following

* + Perform Calculations on data
  + Modify individual data items
  + Manipulate output for group of rows
  + Format dates and number for display
  + Converts column data types

**User defined in function:**

1. It used in plsql and sql.
2. Plsql is **an extension of sql** for further study of sql.
3. We can **use control statement looping and oops concept.**

**Build in function:**

1. It is also called as **pre-defined function**, where functions are already exist. We are **using that function just by calling.**

**Types of build in function:**

1. Single row function
2. Multi row function

**Single row functions:**

* 1. Manipulate data items
  2. Accept arguments and return one value
  3. Act on each row returned
  4. Can be nested
  5. Accept the arguments which can be column or expression

**EX:**

Single input for one output

**i/p o/p**

**Types of single row function:**

1. Character function
2. Number function
3. Date function
4. General function
5. Conversion function

**Character function:**

1. Case manipulation function
2. Character manipulation function

**Types of case manipulation function:**

1. Upper
2. Lower
3. Inticap

**Types of character manipulation function:**

1. Concate
2. Substring
3. Instr
4. Length
5. Reverse
6. Replace
7. Trim

**Types of number function:**

1. Round
2. Trunc
3. Mod
4. Power
5. Sqrt
6. Abs

**Types of conversion function:**

1. Implicit conversion function
2. Explicit conversion function

**Explicit Conversion function:**

1. TO\_NUMBER
2. TO\_CHAR
3. TO\_DATE

**Types of date function:**

1. Sysdate
2. Currentdate
3. Systimestamp
4. Last\_day
5. Add\_months
6. Months\_between

**Types of general function:**

1. Nvl
2. Nvl2

**Multi row function:**

1. It returns one output for multiple input.

Multiple input for single output

i/p o/p

**Multi row function:**

1. Max
2. Min
3. Avg
4. Sum
5. count