Function :
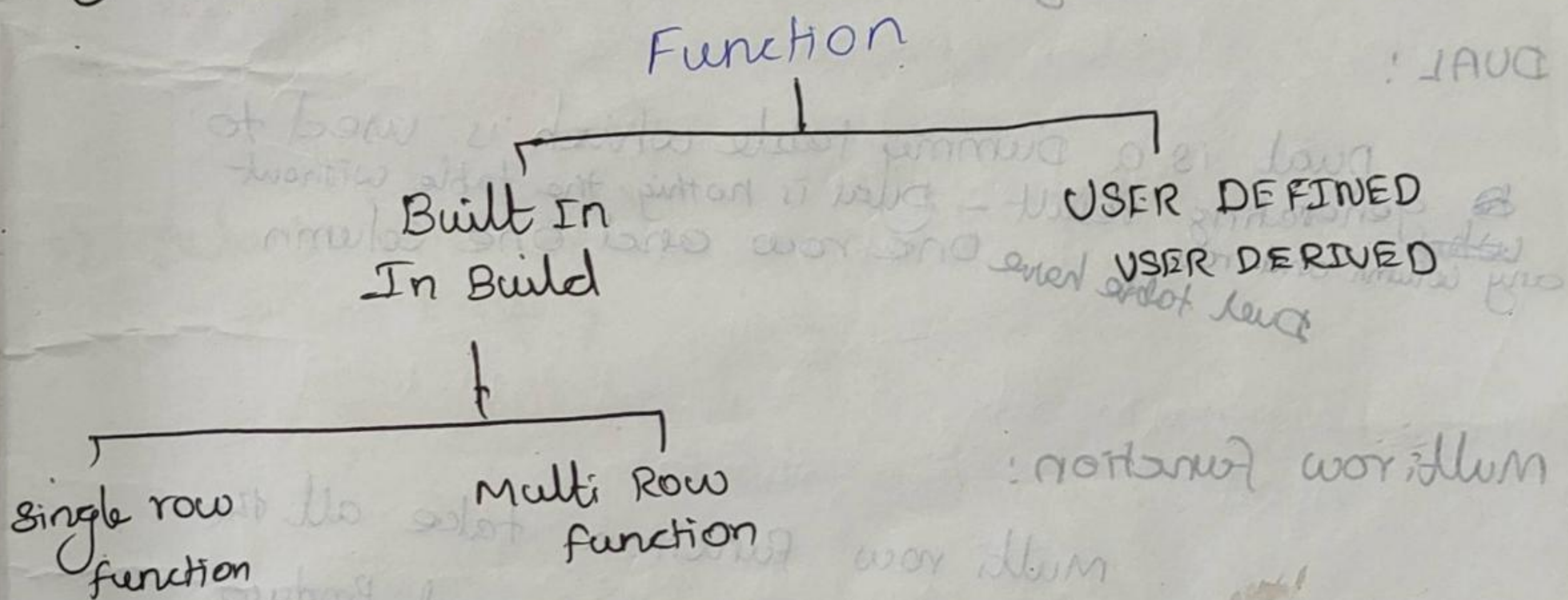
Function are the block of Coder or list of Instruction Given to do particular task

There are 3 components of function

* Function Name
* Number of argument (Input)
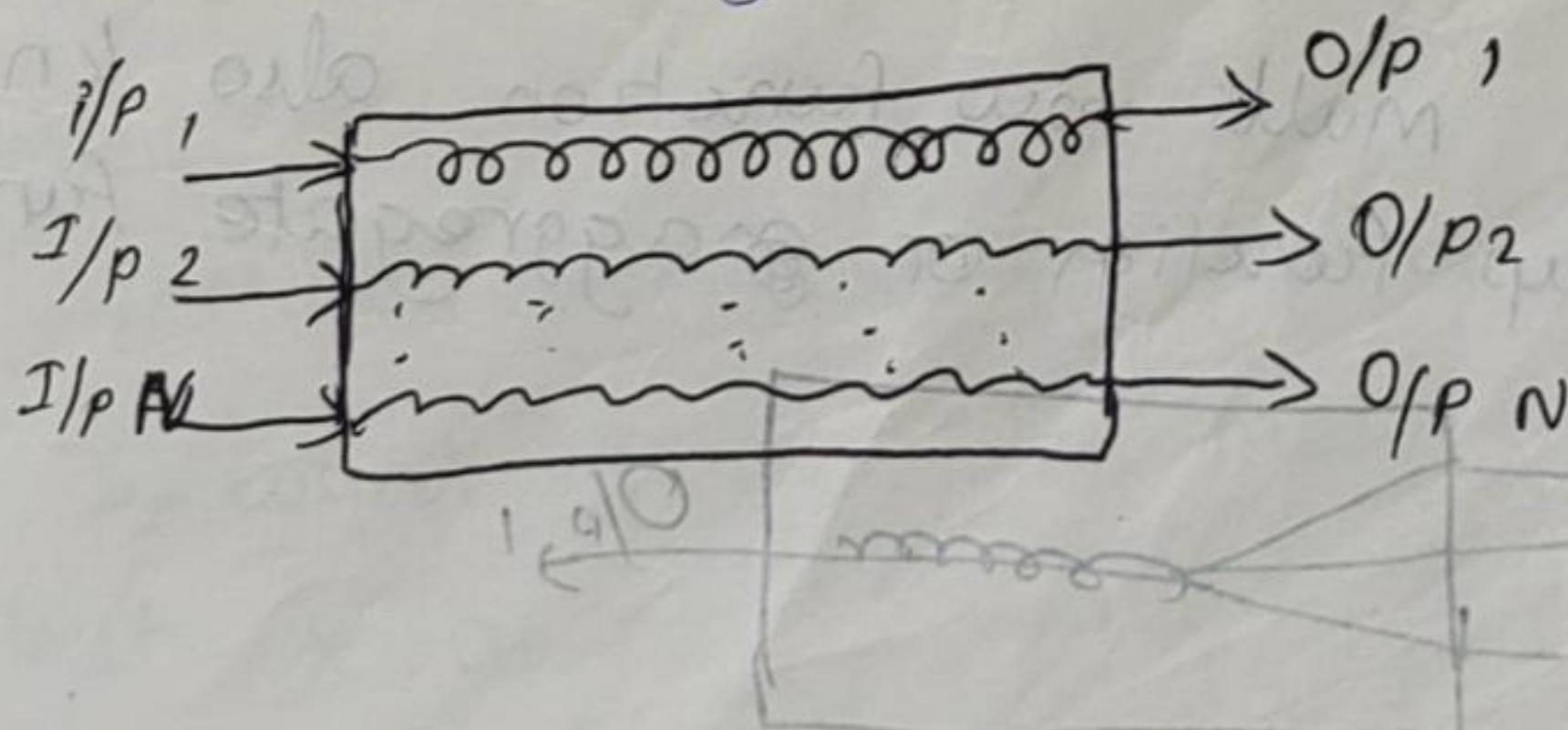* Written type. (output)

Types of function :

Function

Built In / In Build   USER DEFINED
                             USER DERIVED

single row function   Multi Row function

Single Row Function :

Single row function takes one input at a time execute and ~~produces~~ Produces the Result.

Single Row function execute Row by Row

If we pass n number of Inputs to Single row function we get n number output.

I/p 1 ──────────────→ O/p 1
I/p 2 ──────────────→ O/p 2
I/p N ──────────────→ O/p N

Emp

Ename	Sal
Dinga	1
Dingi	5000
Sam	1000

Example:

Select length (Ename)
From Emp ;

No of Character
↑
Length Ename
5
5
3

DUAL :

Dual is a Dummy table which is used to generating result — Dual is nothig the table without any column and row. one row and one column
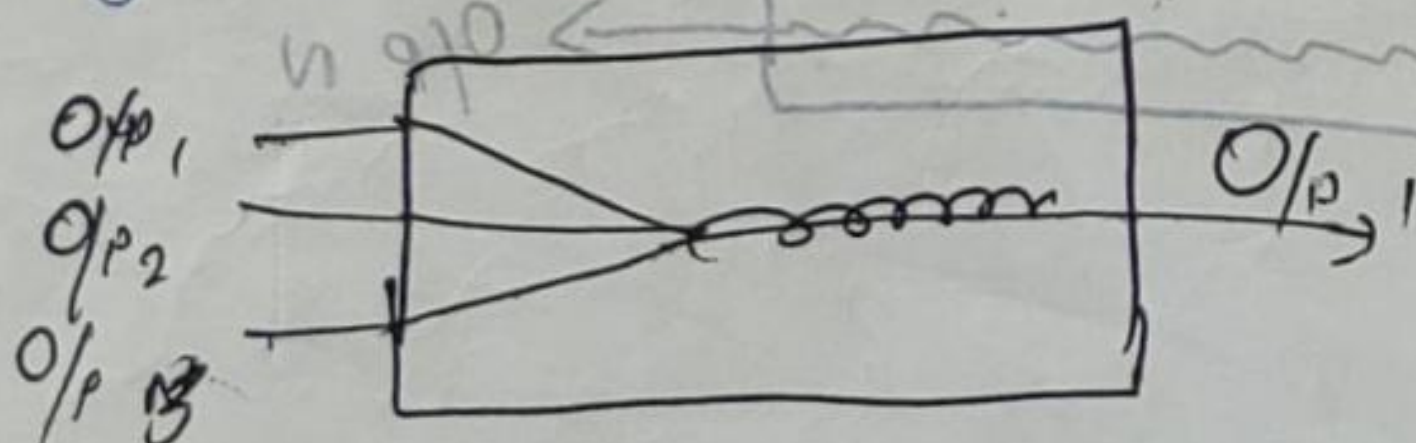Duel table have

Multi row function :

Multi row functions take all the inputs in single shot, executes and Produce the results.

Multi row function execute group by group

If we pass n number of Inputs to the multi row function It gives single output

Multi row function also known as group function or aggregate function

O/p₁ —
O/p₂ —
O/p₃ —

O/p₃'

List of Multi Row Function :

$$Max()$$
$$Min()$$
$$Sum()$$
$$Avg()$$
$$Count()$$

Examples :

1)   Select Max(sal)
       From Emp ;

Result

Max (sal)
5000

2) Select Min (sal)
      From Emp ;

Min (sal)
800

Rules of Multi Row function :

1) For Multi Row function we can Pass Only one Input or Arguments

other 2) Along with Multi Row function we can't Pass any argument in Select clause

3) we can't use multi row function in where clause

4) Multi Row function Ignores Null.

5) Count is the only multi row function which It can accept * as an argument

6) For MIN and MAX and count we can pass Any datatype

7) For Sum and Avg we can pass only the arguments of number datatype

WAQTD Number of Employees working in dept 30

    Select Count (*)
    From Emp
    Where Deptno = 30 ;

WAQTD Total salary needed to pay the Employee

    Select sum (sal)
    From Emp ;

WAQTD Maximum sal , Minimum sal, Total Sal need to pay the Salesman

    Select Max (sal), Min (sal), Sum (sal)
    From Emp
    Where Job = 'SALESMAN' ;

WAQTD Number of Employes working as anlyst and earning more than 1250

    Select Count (*)
    From EMP
    Where Job = 'ANALYST' And Sal > 1250 ;

WARTD   Number of Emp earning Commission

    Select Count (*)
    From Emp
    Where comm is not null

        (or)

    Select Count (comm)
    From Emp;

WAQTD Total Salery needed to pay the
Employee of dept 10 except the president

    Select Sum (Sal)
    From Emp
    where dept No = 10 And Job
            Not IN 'PRESIDENT;