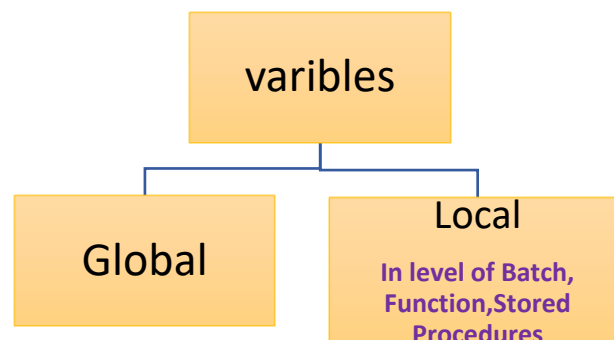# Functions & Variables & Control of flow statement's

- ➤ Before we go through functions you should know **VARIABLES** and how to deal with variable and how to deal with control of flow statements→ (loops, if).
- ➤ **Function is the main component** → how to do function and put your query inside the function
- ➤ **The main feature of function that can we use it anywhere in query** → SELECT, HAVING, FROM with join as well →its apart of query.

❖ Let us first go through the story of Variables ☺

- ❖ In normal program we define the global variable → here we don't define global variables.
- ❖ Already is defined *even we don't assign value to it.*

```
                    varibles
                   /        \
             Global          Local
                             In level of Batch,
                             Function,Stored
                             Procedures
```

- ✓ **Batch:** Group pf query → its run together *(lines that you highlight)*

How to declare Local Varible in SQL?
- Declare *(work on memory)*
- Start with @
- **Declare @X int**

❖ How to assign value to local variable 😊

Set @X = 100

SELECT @X =90

to display you should write *SELECT @ X*, you should run all 3 lines in same batch (declare, assign , select display)

SELECT @X = age from student where id=10

it will take the result of the query and assign it to the varible (@X = age)

update student Set Fname ='Ali', @X=age -->return age

where id= 9 --> update and select in same time(update name, select age and put it in the varible)

❖ Let us go through Global Varible 😊

Global Varible

- Group of varible as built in
- Start with @@
- We said that its as built in ready to use, So why we call it as varible ??

❖ **@@ServerName**
❖ **@@Version**
❖ **@@RowCount**
❖ **@@Error**
❖ **@@identity**

Function

Built-in functions→ (scaler functions)→ *this will return one value*

- ❖ →**Null function** (isNull, ifNull)
- ❖ →**Aggregate function** → من يذكرني فيهم 😊
- ❖ →**Math function** (power)
- ❖ →**String function** (concat, upper,lower , len …)

User defined functions →we can differentiate between them by syntax, ***return type*** (important 😊)

- ❖ →**Scaler** → *return one value* → its okay to use declare, if …. Same as multi statement but here will return one value
- ❖ →**Inline table functions** → **return table** →body→select (no if, no declare, no while, no try, no catch
- ❖ →**Multi statement table functions** → **return table** →body →select + if, while, declare ,try, catch) → ***Also called*** → ***insert statement based on select*** بنفهمها ف الكود

السؤال: ويش الفرق بينهم؟؟

While they return same return type → *Depend on the shape the body* 😊