CPP NOTES – DAY 10

CALLING OF FUNCTIONS

1. Call by value
2. Call by pointers
3. Call by reference

1. Call by Value
- Pass by value refers to the method of passing a function argument by creating a ==copy== of the actual argument.
- This means that any changes made to the parameter inside the function ==do not affect== the original argument outside the function.
- If I want to change the original, then I want to change the value in the address of the original.

2. Call by Pointers
- Call by pointer refers to passing the ==address== of a variable to a function instead of passing the value itself (which is known as "call by value").
- This allows the function to ==modify== the original variable's value because it works directly with the memory address of the variable.
- To change the value of the variable we must do ==dereferencing== the pointer.

3. Call by Reference
- call by reference is another method of passing arguments to a function.
- When you pass a variable by reference, you're passing the ==actual variable== itself, ==not a copy== of it.

- This means any changes made to the parameter inside the function <mark style="background-color:red">directly affect</mark> the original variable.

Packets (Client-Server Communication)

is a unit of data that is transmitted over a network. It contains both **data** and **control information** (such as headers) that allows the network to manage, route, and deliver the data to its destination.

FYI

- *Call by reference is not available in C, but available in CPP*
- *While using call by pointers, if we increment pointer (ptr++), the address only gets incremented leading to reference to another variable at another address.*
- *A pointer that is not assigned any memory location, typically initialized to nullptr (in C++) or NULL (in C).*
- *CPP is meant for application programming -call by ref, when you are writing code for device drivers we will be using call by pointers/address.*
- *System architecture – how hardware interacts with software*
- *Far pointers - refers to a pointer that can access **memory outside the default segment** of the program.*
- ***SMTP** stands for **Simple Mail Transfer Protocol**, and it is the protocol used for sending **emails** over the **internet**.*