



LESSON 9: FUNCTIONS

A **function** is a self-contained program that performs a specific task. They are used as an abbreviation for a series of Instructions that can be executed more than once.

Syntax:

Data_type Function_name (argument)

{

Body of the program

}

Arguments appears in parenthesis and are called formal parameters

WORKING WITH FUNCTIONS

- A semicolon is used at the end of a function statement
- Parenthesis are compulsory after the function name
- Only one value can be returned by a function
- Return statement: Transfer the control back to the calling program.
- Scope rules: The rules that governs whether one piece of code can have access to another piece of code
- Whatever is inside the parenthesis following the return statement is returned as a value to the calling program
- The code within a function is private or local to that of a function
- Two functions have different scope
- Two functions are at the same scope level
- One function cannot be defined within another function

TYPES OF VARIABLES

1. Local variable

- It is declared inside a function
- It is created inside the block and terminated outside the block of Instruction

2. Formal Parameters

- Declared in the definition of function as parameters
- Acts like any local variable inside a function



3. Global variable

- Declared outside the functions
- Holds value throughout the execution of the program

CALLING FUNCTIONS CAN EITHER BE

1. Call by Value

- In c by default, All functions arguments are passed by value
- Arguments: are said to be passed by value when the value of the variable are passed to the call function and alteration on this value as no effect on the value of the variable passed

2. Call by reference

The function is allowed to access the memory location of the argument and can make modification to the value of the calling argument been passed

- **Syntax**
- **Add (int *A, float *B);**

FUNCTIONS IN MULTIPLE FILE PROGRAMS

Functions can be

1. Static: This functions are recognized only within the program file

- **Syntax**
- **Static function_data_type Function_name (argument list);**

2. External Function: This functions are recognized through all the files in the program

- **Syntax**
- **Static function_data_type Function_name (argument list);**