Functions

A function is a self-contained block of statements that performs a coherent task of some kind.

* A C program is a collection of one or more functions.
* If a c program contains only one function it must be main.
* Each function in a program is called in sequence specified by the function calls in main().
* Every function get called directly or indirectly from main any function can be called from any other function, even main can be called from other functions.
* A function can be called multiple times (cleaner code).
* The order in which the functions are defined and the order in which they get called need not be the same.
* A function cannot be defined in another function
* There are two types of functions: (1) Library Functions (printf, scanf, etc)

(2) User Defined Functions

## Importance Of Use Of Functions

* **Reusability**: Writing Functions avoids rewriting the same code over and over and promotes code-reuse.
* **Modular Functions**: If the operation of a program can be divided into separate activities and each activity placed in a different function, then each could be written and checked more independently.
* **Communication**: Communication between functions can be facilitated by args and return values.

## CALSUM Program

* The values of a, b and c are passed from main to c by mentioning a, b and c in the parenthesis while making the for loop.
* In Calsum, these values are collected in the variables x,y and z.
* The variables a, b and c are called actual arguments whereas the variables x,y and z are called common arguments.
* The type, order and the number of the actual and the formal arguments must always be the same.
* The return Statement serves two purposes, it transfers the control back to calling function, it returns the value person in the parenthesis to the following function.
* There is no restriction on the number of return statements that may be present in the function.
* When control returns from CALSUM, the return value is collected in the variable sum.

If the value of a formal argument is changed in the called function, the corresponding change does not take place in the calling function.