Function in C

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Functions in C

What are Functions?

Functions are the building blocks of a program. Functions contain pre-defined instructions to take inputs, solve problems etc. A function can be called multiple times, thus allowing reusability

Example

```
int add(int a, int b);
```

Advantages of functions in C

- Enables reusability and reduces redundancy.
- Program becomes concise.
- It allows modular programming.
- It breaks the program into smaller pieces.

Declaration and Syntax

Declaration of a function

Declaring a function in C informs the compiler about the presence of a function without giving implementation details. This enables the function to be called by other sections of the software before it is specified or implemented.
A function declaration tells the compiler about a function's name, return type, and parameters.

Example

```
void myFunction()
```

Call by Value and Call by Reference

Call by Value

- While calling a function, we pass the values of variables to it. Such functions are known as "Call By Values".
- In this method, the value of each variable in the calling function is copied into corresponding dummy variables of the called function.
- With this method, the changes made to the dummy variables in the called function have no effect on the values of actual variables in the calling function.

Call by Reference

- While calling a function, instead of passing the values of variables, we pass the address of variables(location of variables) to the function known as "Call By References.
- While calling a function, instead of passing the values of variables, we pass the address of variables(location of variables) to the function known as "Call By References.
- With this method, using addresses we would have access to the actual variables and hence we would be able to manipulate them.

Thank You