**Function** - A **function** in C is a block of code that performs a **specific task**.

**Why Use Functions?**

* Reuse code (Don't Repeat Yourself).
* Divide big problems into smaller ones.
* Improve readability and debugging.
* Allow code collaboration and modularity.

**Syntax of a Function in C**

return\_type function\_name(parameter\_list) {

// body of the function

}

Example:

int add(int a, int b) {

return a + b;

}

**Types of Function:**

| Type | Example |
| --- | --- |
| With arguments, with return | int sum(int a, int b) |
| With arguments, no return | void greet(char name[]) |
| No arguments, with return | int get\_value() |
| No arguments, no return | void say\_hello() |

**Scope** - **Scope** defines **where** a variable can be **accessed or used** in your program.

In C, the **scope of a function** is typically **global** by default. This means: **Any function defined outside of another function can be called from anywhere in the program**, **after its declaration** (if needed).

| Scope Type | Description |
| --- | --- |
| **Local** | Variable declared **inside** a function. Only accessible there. |
| **Global** | Declared **outside all functions**, accessible **anywhere** in the file. |
| **Formal parameters** | Treated as local variables in the function where they’re used. |
| **Block scope** | Declared inside {} and limited to that block only. |