

C Function Declaration

Topics : [C](#)

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In C programming language, a function is a block of code that performs a specific task and can be called from other parts of the program. Functions provide modularity and reusability to programs, and make them easier to read, test, and maintain.

A function in C typically consists of the following parts:

1. Function header: specifies the function name, return type, and parameter list.
2. Function body: contains the statements that define what the function does.
3. Function call: invokes the function from within another part of the program.

The syntax for defining a function in C is as follows:

```
return_type function_name(parameter1_type parameter1, parameter2_type
parameter2, ...) {
    // function body
    return return_value; // optional
}
```

where:

- `return_type`: specifies the data type of the value that the function returns (such as `int`, `float`, `void`, etc.).
- `function_name`: specifies the name of the function (must be a valid identifier in C).
- `parameter1_type`, `parameter2_type`, etc.: specify the data types of the parameters that the function expects to receive (such as `int`, `float`, `char`, etc.).
- `parameter1`, `parameter2`, etc.: specify the names of the parameters.
- `return_value`: specifies the value that the function returns (if the `return_type` is not `void`).

For example, the following is a definition of a function named `sum` that takes two integer parameters and returns their sum:

```
int sum(int a, int b) {
    int result = a + b;
    return result;
}
```

```
}
```

This defines a function named `sum` that takes two integer parameters named `a` and `b`, adds them together, stores the result in a variable named `result`, and returns the value of `result`. To call this function from within another part of the program, we can use the following syntax:

```
int x = 5;  
int y = 7;  
int z = sum(x, y); // z will be assigned the value 12
```

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