

In C programming, a constant is a value that cannot be modified during program execution. Constants are used to represent values that are known at compile-time and should not change, such as mathematical constants or program settings.

There are two ways to define constants in C programming: using the `const` keyword and using the `#define` preprocessor directive.

Defining Constants using `const` Keyword:

Constants can be declared using the `const` keyword followed by the data type and a name, and then assigned a value.

Here's an example:

```
const float PI = 3.14159;
```

In this example, `PI` is a constant of type `float` with a value of `3.14159`. The `const` keyword ensures that the value of `PI` cannot be changed during program execution.

Constants defined using `const` can be scoped just like any other variable in C programming.

For example, you can define a constant inside a function and use it only within that function.

Defining Constants using `#define` Preprocessor Directive:

The `#define` preprocessor directive is used to define constants in C programming.

Here's an example:

```
#define PI 3.14159
```

In this example, PI is defined as a constant with a value of 3.14159. The `#define` directive tells the preprocessor to replace any occurrence of PI in the code with its value 3.14159.

Note that `#define` constants do not have a data type associated with them. Instead, the compiler determines the data type based on how the constant is used in the code.

Constants defined using `#define` are global and can be used throughout the program. Also, `#define` constants are not variables and do not take up any memory space.

Constants can be used in arithmetic expressions, function arguments, and more.

For example:

```
float circumference(float radius)
{
    return 2 * PI * radius;
}
```

Here, PI is used in an arithmetic expression to calculate the circumference of a circle with a given radius.

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