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CONSTANTS AND VARIABLES

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A constant is an integral part of a program; an object of value.

Variables usually store various types of data: it can be either char, int, bool and etc. Almost all have some kind of designation to be later called in the program. When we give them some name, we unconsciously send signals to the program to reserve this memory area with some specific name.

Variables should always be given specific names. You can not shy away from using different characters, long or short names, as well as variables where the main thing is that they do not appear before the names, otherwise the program simply will not read them. In modern versions of compilers, the length of a name is practically unlimited. The variable name cannot be the same as reserved keywords.

When you make any project, the first thing you do is declare arguments and functions to make them global. Without this, you simply cannot use them.

If you decide to turn on the debugger while compiling the program, you will see that the program writes different variables to different memory areas, where each element will have its own name and will have its own specific type. Standard AVR GCC works with data types char (character type) and int (integer type).

When declaring a variable, you can initialize it, that is, assign it an initial value. This can be done in the following way.

```
int var_x = 5000;
```

It is better to avoid mixing initialized variables in one declaration statement, that is, it is better to declare initialized variables in separate lines.

We can use the type constant for our arguments and thus designate them as not changing. The types of a constant don't end up changing and will always have the same value. If there is no type next to the constant type that would determine the value of the variable, then it will automatically determine what type we need. For example:

const autom_x = 100; // Const will automatically mark this value as int.

The "=" sign is used for assignment in C. The expression to the right of the assignment sign is evaluated, and the resulting value is assigned to the variable to the left of the assignment sign. In this case, the previous value stored in the variable is erased and replaced with a new one.

x=3;

The "=" operator should not be understood as equality. For example, the expression a = 5; should be read as "set variable a to 5".

In addition to the simple assignment operator "=", there are several more combined assignment operators in C: "+=", "-=", "*=<", "/=", "%=".

x = 5 + 3;

If it is necessary to change the value of a variable to 1, then increment (x++) or decrement (x--) is used.

References

1. Типы переменных. Объявление переменных. Константы. Присваивание. Арифметические операции. Инкремент и декремент.

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