| **Understanding Variables in Arduino code** |
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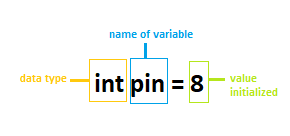
**Arduino Variables:**

The variables are defined as the place to store the data and values. It consists of a name, value, and type.

The variables can belong to any data type such as int, float, char, etc. Consider the url - Arduino data types for detailed information.

Consider the below example:

int pin = 8;



Here, the int data type is used to create a variable named pin that stores the value 8. It also means that value 8 is initialized to the variable pin.

Note:

We can modify the name of the variable according to our choice.

* We can refer the declared variable further in our program or code.

For example,

pinMode(LEDpin, OUTPUT);

Here, the value stored (8) in the declared variable (LEDpin) will be passed to the pinMode() function.

**Advantages of Variables**

The advantages of the variables are listed below:

* We can use a variable many times in a program.
* The variables can represent integers, strings, characters, etc.
* It increases the flexibility of the program.
* We can easily modify the variables. For example, if we want to change the value of variable LEDpin from 8 to 13, we need to change the only point in the code.
* We can specify any name for a variable. For example, greenpin, bluePIN, REDpin, etc.

**How can we change the value of a variable in Arduino?**

int LEDpin = 7;

int pin1 = LEDpin;

LEDpin = 13;

The LEDpin now contains the value 13 instead of 7. But, value of pin1 is still 7.

* The variables can be declared in two ways in Arduino, which are listed below:

1. Local variables
2. Global variables

**Local Variables:**

The local variables are declared within the function. The variables have scope only within the function. These variables can be used only by the statements that lie within that function.

**Global variables:**

The global variables can be accessed anywhere in the program. The global variable is declared outside the setup() and loop() function.