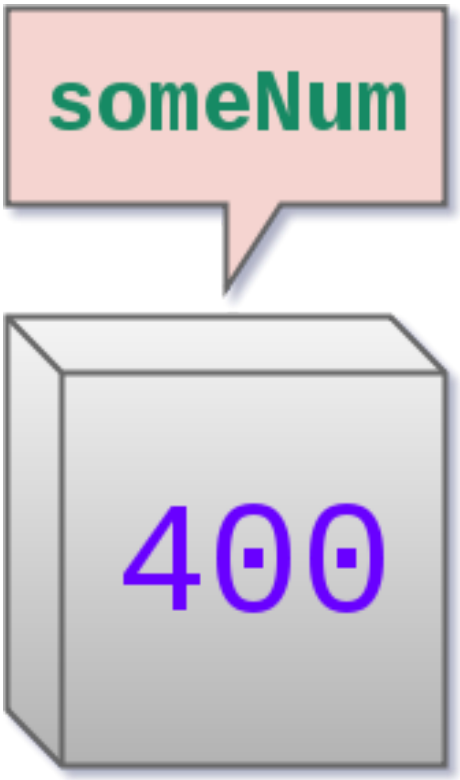
Variables



Variables are extremely important in C++. In a general sense, variables hold data. The data that is held in a particular variable is referred to as its **value**. The name of the variable itself is called the **identifier**.

There are two parts of utilizing a variable. The first part is called **declaration**, and the second part is called **definition**. Declaring a variable means that you have a variable denoted by its identifier to be used somewhere in the program. For example, this is how to declare a variable of type integer: `int someNum;` Defining a variable means that you have put a value inside of the variable to be used somewhere in the program. For example, this is how you define the above variable: `someNum = 400;` Now, anywhere we use **someNum**, the program will know you mean the value 400. The definition and declaration may be implemented on the same line at the same time such as: `int someNum = 400;`

The variables discussed on this page are able to be changed as needed. The picture above represents a changeable value. You can think of this as a box with an open top. For example, if the value of **someNum** needs changed, implementing the statement `sumNum = 500;` can be used. Now, wherever **someNum** is used, the program translates the variable as the value 500. This can be done however many times the program needs. You are able to replace the value to whatever you please as long as it is in the type's bounds.

The most common types of variables include: `int`, `long`, `char`, `float`, `double`, and **string**. Refer to the Types page to see a list of the most common C++ types and their properties.

Remember that variable names cannot:

1) Contain spaces
2) Be a keyword
3) Begin with a number
4) Use special characters except underscore

Variable names are case-sensitive, so `char var = 'M';` is a different entity from `char Var = 'M';`