C++ variables and data types

**Variable**

**A variable** is what the program used to store a value in computer’s memory temporarily. The value stored in a memory location is cleaned when the program that uses it terminates. 

**Data type**

**Data types** of variables tell the computer to store different types of values such as number, text, true/false, etc. They also inform the computer to reserve the different memory’s spaces for those variables. Here is a table of the data types of variables that can be used: 

|  |  |  |
| --- | --- | --- |
| **Keyword** | **Type** | **Values** |
| int | Numeric – Integer | -2 147 483 648 to 2 147 483 647 |
| float | Numeric – Real | -3.4 \* 1038 to 3.4 \* 1038 |
| double | Numeric – Real | -1.7 \* 10308 to 1.7 \* 10308 |
| char | Character | All unicode characters |
| bool | Boolean | True or False |

**Declaring variables**

In C++, before you can use a variable to store any value, it must be declared. To declare a variable in C++ you must write down its name immediately after its data type.   
  
Example:   
int a; //declare a variable named a to store an integer value   
  
You can declare more than one variables of the same type on a single line by separating them with commas.  
  
Example:   
int i, j;

**Assigning values to variables**

Example:   
int i = 5;

char c='a';

Alternativly, you can write as shown below.

int i;   
char c;