Variables assignment

Variables are basically data containers that we use in coding to make sense out of the chaos. In order to use a variable you have to first do two main things, however more understanding is needed to complete these two things. First you have to declare the variable (at least in C#, which is what we are using so this is tailored to that language). When you declare the variable you tell the computer what kind of variable it is going to be. This is where data types come in. The main data types are int, double, float, string, and bool. There are other types but they are kind of specific situation use types.

Int is short for integer and is used when you want to store whole numbers. Double is used when you want to use numbers that can contain decimals. Float is a lot like the double type but can store more data and so can be more precise then the double. A string is a character type and can hold any character. And last but not least a bool is short for Boolean which is basically a test to return true or false. Those are the types in a nutshell.

Each variable that is declared needs to have its type declared so the computer knows what kind of data it is going to store. I am not going to talk about scope here other than to say that there are different visibilities to variables within a program and where you declare a variable affects what parts of the program can use said variable. Here is a basic example of declaring a variable:

Example 1. public int someNum; (the public part deals with the scope of the variable)

You can also assign a value to your variable when you declare it if you like. It is good practice to assign a “null” value to variables when you first assign them (at least in C++) here is an example of each type’s null value:

Example 2. int someNum=0;

double someNum = 0.0;

float someNum = 0.0f;

string someString = “ ”;

bool someBool = true;

For the most part you can name your variables anything you want but there are some naming conventions that have been established to help keep code somewhat similar, and there are some things that the languages won’t let you do. For instance you can’t start your variable names with any special characters except the underscore and there is a convention for when you should use that at the start of the variable name. Your variable names can’t contain any numbers. Lastly (that I am aware of anyway) you can’t name your variables certain reserved words. For instance the data types are reserved words so you can’t do the following.

Example 3. int int = 0

Other than that you can name them whatever you want but it is a good idea and best practice to name them appropriately so if someone else is looking at your code they will know what the variables are.

Example 4. Int bobsAge = 0;

From the above example it is clear the variable contains bob’s age. Make your variable names meaningful

Once declared you can use the variables without declaring their data types. There are some rules that are of note concerning the combining of data types that I feel are good to know. Let’s say you have an int called someInt and you try to assign it the data contained in a variable of the type Double like so:

Example 5: someInt = someDouble – 3;

This will cause the system to give a syntax error. There is a way that you can force the double to be converted to an int but it will cut off anything after the decimal. The general rule of thumb is that you can get bigger but not smaller. So an int can be assigned to a double or a float but those two can’t be assigned to an int without some extra work. This is call type casting. There is more to this but this is way longer then it needed to be so I will end here.