**Creating Variables and Classes in C++**

Creating variables in C++ is very similar to Java and C#. Here are a few of the most common types used:

int - An integer (Usually 32-bit). Represents whole numbers

float - A floating point number (usually 32-bit). Can represent numbers with decimals

double - A floating point number(usually twice the byte size of a float)

bool - A Boolean. Can represent true or false

char - A character. Represents a singular character (Usually 8-bit)

void - A non type. Use for functions that do not return a value.

Copy the following code into a project and compile it. This program makes use of all of the types above and initialises them.



Make a note of the difference between an Int, a Float, and a Double. Int’s are initialised by giving it a whole number, Double’s require a decimal point, Float’s also require a decimal point but we add an ‘f’ to the end to distinguish between the two.

Unlike Java, some standard variables like String do not exist as a base type in C++. Luckily, C++ comes with a set of libraries called the Standard Template Libraries which contain templates for objects like Strings, Dynamic Arrays, Maps, etc.

To create a string in C++, you need to make sure the file you are using the string in has the proper include. In this case, we can add the following at the top of the code to allow use to use Strings:



Now all we have to do is define a String and we can use it in our code.



**Creating a Class**

Creating a class in C++ is again very similar to Java and C#. Classes are very good for describing objects in your applications, providing a template with member variables and functions. Below is a class that describes a virtual pet; it knows how hungry a pet is, and can print out that data to the user.

