**Primitive Data Types**

After learning about variable initialization and assignment, you should be aware that data types are serious business. They can determine the success or failure of your project. Therefore, you should know them extremely well. This document should serve as a quick reference guide for the data types we will be using most often in this class. Research each of the terms below and write their definitions in the boxes below

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| **int :**  **Integer. Integer types can hold whole numbers such as 123 and −96. The size of the values that can be stored depends on the integer type that we choose.** |
| **Double:**  **the double datatype is used to hold decimal numbers. It will hold any real number (including decimals) .** |
| **Boolean:**  **Used to store values with two states: ture and false** |
| **float:**  **Floating point data types are used to represent numbers with a fractional part. Single precision floating point numbers occupy 4 bytes and Double precision floating point numbers occupy 8 bytes. There are two subtypes: float(4 bytes) and double(8 bytes).** |
| **char:**  **Characters, It stores character constants in the memory. It assumes a size of 2 bytes, but basically it can hold only a single character because char stores unicode character sets. It has a minimum value of ‘u0000’ (or 0) and a maximum value of ‘uffff’ (or 65,535, inclusive).** |
| **short:**  **The short data type is a 16-bit signed two's complement integer. It has a minimum value of -32,768 and a maximum value of 32,767 (inclusive). As with byte, the same guidelines apply: you can use a short to save memory in large arrays, in situations where the memory savings actually matters.** |
| **long:**  **The long data type is a 64-bit two's complement integer. The signed long has a minimum value of -263 and a maximum value of 263-1. In Java SE 8 and later, you can use the long data type to represent an unsigned 64-bit long, which has a minimum value of 0 and a maximum value of 264-1. Use this data type when you need a range of values wider than those provided by int. The Long class also contains methods like compareUnsigned, divideUnsigned etc to support arithmetic operations for unsigned long.** |