**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 : a 32-bit signed two’s complement integer**  **Has a min value of 0 and a max value of 2^31 -1. Holds only whole numbers** |
| **Double: double-precision 64-bit IEEE 754 floating point. It is usually preferred for decimal numbers. It should not be used for precise values (ex. currency)** |
| **Boolean: has only two possible values - true or false. Tracks true/false conditions. Helpful in for loops and while loops.** |
| **float: a single-precision 32-bit IEEE 754 floating point. It is used when you need to save memory in a large array of numbers. Like Double, this should not be used or precise values.** |
| **char: a single 16-bit Unicode character. It has a minimum value of 0 and a maximum value of 65,535** |
| **short: a 16-bit signed two's complement integer. Should use then when saving memory in large array of numbers matters. It has a min value of -32,768 and a max value of 32,767** |
| **long: a 64-bit two's complement integer. Use this when you need a range of integers that is wider than what “int” can provide. It has a minimum value of 0 and a maximum value of 2^64 -1** |