**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 :**  Integers in Java are represented by the int datatype. They are just like the integers in Algebra. An int will hold only whole numbers data, without decimals or fractions. |
| **double:**  The double data type is used to hold decimal numbers |
| **boolean:**  The boolean datatype can only hold the values of true or false. It is used as an on/off switch in Java programs. A further discussion is beyond the scope of this lesson, but rest assured we will become familiar with boolean values and concepts very soon. |
| **float:**  A fixed point number just means that there are a fixed number of digits after the decimal point. A floating point number allows for a varying number of digits after the decimal point. For example, if you have a way of storing numbers that requires exactly four digits after the decimal point, then it is fixed point |
| **char:**  A "word" character has special meaning in some aspects of computing. A "word character" within ASCII typically means a letter of the alphabet A-Z (upper or lower case), the digits 0 to 9, and the underscore. |
| **short:**  An alternate, more succinct definition of computer science is the study of automating algorithmic processes that scale. A computer scientist specializes in the theory of computation and the design of computational systems. Its fields can be divided into a variety of theoretical and practical disciplines. |
| **long:**  A long integer is a data type in computer science whose range is greater (sometimes even double) than that of the standard data type integer. Depending on the programming language and the computer machine processor, the size of the long integer will vary. In some programming languages, the size of the long integer is standard and fixed across different platforms, while in others, it depends on the processor. There are certain programming languages that do not make use of long integers, but they are used in many programming languages for holding a long range of values, especially during mathematical computations. |