## **Java Data Types**

1. <u>int</u> – An int is an integer type that has the range -2.14 billion to 2.14 billion. Int is usually the default choice for an integer unless there is a specific reason to use a different int type.

Ex.: int order = 15; (A grocery order has 15 items.)

- 2. <u>byte</u> A byte is a type that contains an integer value from -128 to 127 that uses less memory than an other primitive types. It can be useful to help other programmers recognize the intended range of integer values.
- 3. <u>short</u> A short is an integer type that can range from -32,768 to 32,767. It has the same benefits as the byte type as in it can help save memory versus other integer types.
- 4. <u>long</u> A long is an integer type that ranges from -9.2 x 10<sup>18</sup> to 9.2 x 10<sup>18</sup>. This is only used if you need to use values that are larger than the int type will allow.
- 5. <u>double</u> A double is a numeric value. This type is the default choice for decimal values.

Ex.: double money = 12.11; (You have \$12 and 11 cents.)

- 6. <u>float</u> A float is also a numeric value that can hold decimals. It is used when programmers need to save memory.
- 7. <u>boolean</u> A boolean can store two value: true or false. It is usually used to check a condition of another variable or "state."

Ex.: boolean status = true; (The state of the status is true.)

8. <u>char</u> – A char is a data type that can store a single character. Use a single apostrophe when declaring a char.

Ex.: char grade = 'A'; (The grade in the class was an A.)

9. <u>String</u> – A String is a sequence of characters. Use a double quotation when declaring a String.

Ex.: String name = "Harry"; (The name of the boy was Harry.)

10. <u>Array</u> – Arrays are the fundamental type used to store a list of values. They can store value of any type. Arrays size can not be changed after they are created.

Ex.: String[] names = new String[10]; (An array with room for 10 names.)

11. <u>ArrayList</u> – ArrayLists are similar to Arrays, except that you can grow and shrink and ArrayList as needed. ArrayLists cannot store primitive data types(int, double, and char). Strings are the main type stored in ArrayLists. ArrayList also has methods for common tasks, such as adding, removing, and clearing elements.

Ex: ArrayList<String> friends = new ArrayList<String>(); (An ArrayList that stores the name of friends.)