

## 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

### **int :**

- represents some finite subset of the mathematical integers.
- will hold only whole numbers data, without decimals or fractions

### **double:**

- Represents decimal numbers

### **boolean:**

- a logical type that can be either "true" or "false"
- used as an on/off switch in Java programs

### **float:**

- represents a limited-precision rational number that may have a fractional part
- only a subset of real or rational numbers are exactly representable; other numbers can be represented only approximately.
- mainly used to save memory in large arrays of floating point numbers

### **char:**

- may contain a single letter, digit, punctuation mark, symbol, formatting code, control code, or some other specialized code
- characters may be combined into strings

### **short:**

- Can be used to save memory as byte data type
- -32768 to 32767

### **long:**

- used when a wider range than int is needed.
- 9,223,372,036,854,775,808 to 9,223,372,036,854,755,807

