

## Basic Facts You Need to Know About Variables in Processing (also applies to Java)

Def: A **variable** stores a value in memory so it can be used later in a program. The variable can be used many times in a single program and can be changed while the program is running.

*We use variables to avoid repeating ourselves. If you find yourself using a variable more than once consider making it a variable.*

### How to Declare a Variable

The following line declares a variable named diameter that stores the value 20.

```
int diameter = 20;
```

int is called the **data type** of the variable. All variables must be declared before they can be used in a program. Declaring the variable sets aside space in the computer's memory to store the information.

### Data Types

<u>Declaration</u>	<u>Information that can be stored</u>
int	Whole numbers ..., -2, -1, 0, 1, 2, ...
float	Real numbers (numbers that have decimal points)
String	Letters, numbers, symbols (i.e. words and phrases)

### Arithmetic Operators

+	Addition
-	Subtraction
*	Multiplication
/	Division
%	Modulus
=	Assignment