Lecture 7: Functions Worksheet

1) Open Processing and type in the following function definition. Also create *empty* `setup()` and `draw()` functions. What happens when you press Play? Why is this?

```
// computes the fictitious "half-plus-seven" age dating rule
float halfPlus7(float age) {
  return age/2 + 7;
}
```

2) Now add the following line to `draw()`. Make sure that it is indented inside of `draw()`! What happens when you press Play? Why is this?

```
float f = halfPlus7(18);
```

3) Now change the line in `draw()` to the following. What happens when you press Play? Why is this?

```
println(halfPlus7(18));
```

4) Move the `println()` statement from Question 3 to `setup()` then add another call to `halfPlus7()` so that it now reads:

```
println(halfPlus7(halfPlus7(18)));
```

First, *predict* what you think will happen when you execute this program. Now press Play and verify!

5) Now delete the parameter list in the definition of `halfPlus7()`. List the TWO errors that appear. Hint: click on any red underline that you see.

6) Below we describe a few new functions that we are designing. Based on the descriptions, decide on (a) the return type and (b) the parameter list (how many parameters, what data types, and what names you will use).

As a reminder, here are some common datatypes:
    `int` – integers (positive and negative whole numbers)
    `float` – decimal numbers (includes integers)
    `color` – color (specified in RGB format)
    `boolean` – `true` or `false`

The function `drawUW` will draw a UW logo centered at a specified coordinate (x,y) at a specified size.

```
_____ drawUW(_____)
{
   ...
}
```

The function `inch2cm` will convert someone's height from inches to centimeters (1 inch = 2.54 cm).

```
_____ inch2cm(_____)
{
   ...
}
```

The function `isOdd` will tell you whether or not a specified number is odd (*e.g.* 1, 3, 5).

```
_____ isOdd(_____)
{
   ...
}
```

The function `pickColor` will give the user a randomly-selected color.

```
_____ pickColor(_____)
{
   ...
}
```