Functions Homework (Due 9/6)

Using Unity's `transform` Functions

Create a new scene that has a textured cube in it. Don't move your camera from its initial position or rotate your cube, but place the cube in your scene so that it appears on the left side of the screen when you run the game. Set up the cube with a script that does the following:

1. Move the cube slowly to the right on the screen. (Hint: You'll need `transform.Translate`.) The cube will move off-screen - that is completely fine.
2. Slowly rotate the cube around it's x-axis. (Hint: You'll need `transform.Rotate`.)
3. Bonus: Make the cube rotate at 45 degrees per second. (Hint: `Time.deltaTime`.)

Try changing the rotation so the cube rotates around the y-axis - any idea what is happening?

Writing Custom Functions

Create a new script in order to practice functions. Attach the script to an empty game object. Create the following functions and test them to make sure that they work.

CirclePerimeter

Write a function that takes the radius of a circle and returns the perimeter. Your function will need one parameter (the radius) and should return a float (the perimeter).

- The formula for the perimeter is: 2 * radius * 3.14
- Test your function by converting the following radii:
  - A radius of 10 should give you a perimeter of 62.8
  - A radius of 20 should give you a perimeter of 125.6

ConvertFahrenheitToCelsius

Write a function that takes the temperature in °F (a parameter) and returns the temperature in °C.

- The formula for conversion is: C = (F - 32) * 5 / 9
- What type of variable makes the most sense here?
- Test your function by converting the following temperatures:
  - 32 Fahrenheit should be 0 Celsius
  - 100 Fahrenheit should be 37.77778 Celsius

SingBirthdaySong

Write a function that takes the player's name as a parameter and sings the birthday song to them in the console.

- Since we are outputting to the console, do we need to return a value from the function?
- You'll need to use `Debug.Log` multiple times here.

PrintMagentaMessage

Write a function that can print a magenta colored message to the console window. It should take one string parameter (the message).

- This line of code prints boring black text: `Debug.Log("Hi there");`
- This line of code makes our console magical and prints out "Hi there" in magenta: `Debug.Log("<color=magenta>Hi there</color">);`

Bonus: PrintColorfulMessage

Write a function that can print out a message in any color. It should take two string parameters - one for the message and one for the color.

- Some colors that will work in place of magneta: "orange", "purple", "red", "lightblue".
- This page has more info on console formatting.