Lesson 6a: Pre-made Functions

There are functions that have already been written for you and are ready to use. We can call those pre-made functions or built-in functions. You have already used one – input(). Another 2 are max() and min()

max and min can do multiple things, for example:

They can return the max/min number in a list of numbers. (we will learn about lists later)

They can return the max/min item in a string.

They can return the max/min item in a list/tuple/dictionary (we will learn about these later)

ERROR from the video: I wanted to show you about using min and max with characters and I forgot to do that. So, let me give you example here.

lowest=min("abcABC")

highest=max("abcABC")

Here min and max are being used to find the smallest letter and largest letter. These are determined by their ASCII value. You can look up ASCII chart to see what every character is assigned if you wish. But, understand while you and I know what the letters a, b, c, etc. are the computer doesn't. It only knows numbers. So, it turns them into ASCII values to compare which one is smaller or larger than the other.

If you are curious you can call the following function – ord("a") and ord("A") to see how Python compares those 2. You will see that A is smaller than a. hahaha. Totally the opposite as what we know. But, again, it just knows them as numbers, not as letters. That should get you through your homework.

Lesson 6b: User-created Functions

Functions you create are the most important part of Python. You are practically only limited by your imagination. If it can be done by a computer then you can create the function for it.

Step 1: Create the function:

```
def my_own_function(a, b):

   if a < =b:

      print("a won!")

   else:

      print("I want a recount!")

   return(a)
```

Step 2: call the function:

```
winner=my_own_function(5,5)
```

Step 3 do something with the return value if you have one.

```
print("And the winner is",winner)
```

Homework for Lesson 6

Do the following using Python 3

1) Enter a string and return the lowest value from a function.
2) Enter a string and return the highest value from a function.
3) Enter a string and return both the highest and lowest value from a function.
4) Using answers from 1-3 determine the order of the characters on your keyboard (include upper and lower case letters).
5) Create a function that will take an integer and return both 1 smaller and 1 larger than that integer.
6) Create a function1 <name it anything you want> that calls another function function2 <name it anything you want> and returns a value to function1. Then function1 prints the result. Consider this a helper function. A function that helps another.
7) Ask the user if you want to convert Celsius to Fahrenheit or Fahrenheit to Celsius. Then call a function that prints out the result. Try creating 1 function doing it all in 1. Then trying 2 separate functions one for C->F and the other for F->C. Consider which you prefer? What looks better?
8) Write a function that will take in a number grade and return a letter grade (use whatever cut-offs you want) then print the returned value.