

LAB 8 – Using Functions

Besides the built-in functions in Python such `len` and `sum`, we can define our own functions. An example of this is given below, which can be directly typed in and used in the Python shell,

```
>>> def avg3(n1, n2, n3):
    return (n1 + n2 + n3) / 3.0
>>> avg3(30,60,20)
36.666666666666664

>>> def total(lst):
    sum = 0
    for k in range(0, len(lst)):
        sum = sum + lst[k]
    return sum
>>> nums = [10,20,30]
>>> total(nums)
60

>>> def avg(lst):
    return total(lst) / len(lst)
>>> nums = [30,60,20]
>>> avg(nums)
36.666666666666664
```

Task 1

Write and test a function called `fahrenToCel` that converts degrees in Fahrenheit to degrees Celsius. The formula for this is $C = (F - 32) * 5/9$.

Task 2

Write and test a function called `CelToFahren` that converts degrees in Celsius to degrees Fahrenheit. The formula for this is $F = (C * 9/5) + 32$

Task 3

Use these functions in combination for different temperatures and indicate the results that you get, for example, `fahrenToCel(CelToFahren(100))`

Task 4

Following are the temperatures in Fahrenheit for the month of February. Using function `avg` (which in turn calls function `total`) write a program that computes the average of all of the temperatures for the month. (You can copy and paste the following into your Python program)

```
febTemps = [[30,34,40,36,36,28,29], [32,34,44,36,35,28,33], [29,40,36,24,26,30,30], [32,34,32,28,36,24,32]]
```

Task 5

For the temperatures given above for the month of February, write a program that displays the temperatures in degrees Celsius.

What to Turn In

- Copies posted in BlackBoard of your programs for tasks 4 and 5 only