# Lab 1 (10 pts)

You are encouraged to discuss and work with your classmates on the lab exercises but each student should type and submit their solutions. If you do work with someone on the lab exercises, please include the name of your collaborators at the top of the file you submit.

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**IDLE exercises**

Write and execute the requested statements in the specified order an IDLE session. When you're done, copy and paste your session solutions into a file called **lab1.py** and submit through d2l.depaul.edu. Please edit out incorrect attempts and include only your successful work.

1. Write and evaluate Python expressions corresponding to the following statements:
    a. The sum of the first 5 negative ($< 0$) integers
    b. The average age of three people with ages 21, 45, and 14 respectively
    c. 5 to the 4th power
    d. The number of times 20 goes into 387 (evenly -- it should produce an integer result)
    e. The remainder when 387 is divided by 20
2. Write and evaluate Python assignment statements corresponding to the following statements:
    a. Assign 3.5 to the variable a, 12 to the variable b, and -3 to the variable c
    b. Assign to variable d the product of variables a, b, and  c
3. Write and evaluate Python assignment statements corresponding to the following statements:
    a. Assign 0.0 to the variable c, the number of degrees Celsius.
    b. Write an expression using c that calculates the equivalent temperature in degrees Fahrenheit (may need to look this up on the internet) and assigns the result to a variable f. Your expression should use the variable c, not the value 0.0.
    c. Repeat steps a. and b. for Celsius temperatures 100 and -40, respectively

4. Assign x=3, y=-4, z=5 in the Python shell.  Then write Boolean expressions involving x, y and z that determine whether each the following are True or False:
    a. y is greater than x
    b. z is 5
    c. x and y are both negative
    d. z is one of the following: 4, 5 or 6

        next two are a little harder

e. `x` and `z` have the same sign, both positive or both negative. (there is a clever way of doing this)

f. `x` is odd (hint: look back your answers to problem 1)

5. Write and evaluate Python assignment statements corresponding to the following statements:

   a. Assign to variables `first`, `second`, and `third` the strings 'one', 'two', and 'three'

   b. Assign to the variable `formattedstr` the concatenation of the string variables `first, second, and third` ... That means that in this particular case the value of `formattedstr` should be `'one, two, and three ...'` where the commas, "and", spaces, and three dots will have to be concatenated with the values in the variables. For full credit your expression must use the variables `first`, `second`, and `third` instead of hard-coding the values of the variables.

6. Assign `c1 = '1'` and `c2 = '2'` in the Python shell. Then write string expressions involving only `c1` and `c2` and the string operators + and * that evaluate to the following. Make your string expressions as succinct as you can.

   a. `'12'`

   b. `'2211'`

   c. `'111222'`

   d. `'12211221122112211221'`

## Submitting the exercises

You must submit your solution to d2l.depaul.edu > dropbox > lab1.   Submit only a single text file (**lab1.py**) with all of your solutions cut and pasted into it.  Submissions after the deadline listed above will be automatically rejected by the system.

## Grading

The lab session is worth 10 points.  Five points are associated with lab attendance and five points are associated with the submission of solutions to the exercises listed above.