

Lab exercise Week 3

See D2L for Due Date

Logistics

To receive full credit for the lab, you must attend the session, remain in the lab for at least 45 minutes, and submit a file that contains solutions to all these exercises.

You are encouraged to work in groups on lab exercises. If you do work with someone, you must include the name(s) of your collaborator(s) at the top of the file you submit. For more information about collaboration policies in this class, see the Academic Integrity Policy.

If you complete the lab exercise early, please read Chapters 7 and 8 in the textbook and work on the second assignment. You are only allowed to work on assignments with at most two-other people, either directly or indirectly, who must be formally identified as part of your assignment submission. Please see the assignment description and the course Academic Integrity policy for the full description of the process you must follow when completing assignments. If you need additional help on the assignment, please ask the lab assistant.

Begin the lab by downloading the zip file found on the D2L site. It contains a template file **csc242lab3.py**.

Part 1:

Take the solution for the Die() class from lab 2 and modify it to prevent class invariants. Hint: What parameter could cause the class to be in an invalid state?

Part 2:

Implement a class named Person that implements all the behaviors shown in the screenshots below. No template has been provided. Pay careful attention to assertions shown.

```

p=Person()
p
Person(John Doe,0,1)
str(p)
'John Doe is age 0 and weighs 1 pounds.'
p=Person(None)
Traceback (most recent call last):
  File "<pyshell#6>", line 1, in <module>
    p=Person(None)
  File "C:\Users\azoko.BASEMENT\OneDrive - DePaul University\Documents\Teaching\CSC 242\Evening Class - Section 901\Week 3\csc242lab3-solution.py", line 36, in __init__
    assert type(name)==str and len(name)>0, 'Name must be a string with length greater than 0'
AssertionError: Name must be a string with length greater than 0

```

```

p=Person('Tony',-1)
Traceback (most recent call last):
  File "<pyshell#8>", line 1, in <module>
    p=Person('Tony',-1)
  File "C:\Users\azoko.BASEMENT\OneDrive - DePaul University\Documents\Teaching\CSC 242\Evening Class - Section 901\Week 3\csc242lab3-solution.py", line 37, in __init__
    assert type(age)==int and age>=0, 'Age must be a int with a value greater than or equal to 0'
AssertionError: Age must be a int with a value greater than or equal to 0
p=Person('Tony',0,0)
Traceback (most recent call last):
  File "<pyshell#9>", line 1, in <module>
    p=Person('Tony',0,0)
  File "C:\Users\azoko.BASEMENT\OneDrive - DePaul University\Documents\Teaching\CSC 242\Evening Class - Section 901\Week 3\csc242lab3-solution.py", line 38, in __init__
    assert (type(weight)==int or type(weight)==float)and weight>0, 'Weight must be a number with a value greater than 0'
AssertionError: Weight must be a number with a value greater than 0
p=Person('Tony',90,150)
p
Person(Tony,90,150)
str(p)
'Tony is age 90 and weighs 150 pounds.'

```

```

p=Person('tony',1.4)
Traceback (most recent call last):
  File "<pyshell#14>", line 1, in <module>
    p=Person('tony',1.4)
  File "C:\Users\azoko.BASEMENT\OneDrive - DePaul University\Documents\Teaching\CSC 242\Evening Class - Section 901\Week 3\csc242lab3-solution.py", line 37, in __init__
    assert type(age)==int and age>=0, 'Age must be a int with a value greater than or equal to 0'
AssertionError: Age must be a int with a value greater than or equal to 0
p=Person('tony',1,10.5)

```

```

p=Person('tony',1.4)
Traceback (most recent call last):
  File "<pyshell#14>", line 1, in <module>
    p=Person('tony',1.4)
  File "C:\Users\azoko.BASEMENT\OneDrive - DePaul University\Documents\Teaching\CSC 242\Evening Class - Section 901\Week 3\csc242lab3-solution.py", line 37, in __init__
    assert type(age)==int and age>=0, 'Age must be a int with a value greater than or equal to 0'
AssertionError: Age must be a int with a value greater than or equal to 0
p=Person('tony',1,10.5)

p.increaseWeight('a')
Traceback (most recent call last):
  File "<pyshell#17>", line 1, in <module>
    p.increaseWeight('a')
  File "C:\Users\azoko.BASEMENT\OneDrive - DePaul University\Documents\Teaching\CSC 242\Evening Class - Section 901\Week 3\csc242lab3-solution.py", line 44, in increaseWeight
    assert (type(weight)==int or type(weight)==float)and weight>0, 'Weight must be a number with a value greater than 0'
AssertionError: Weight must be a number with a value greater than 0
p.increaseWeight(5)
str(p)
'tony is age 1 and weighs 15.5 pounds.'
p.increaseWeight(100.1)
str(p)
'tony is age 1 and weighs 115.6 pounds.'

```

Submitting the exercises

You must submit your solution to the exercises using the lab 3 dropbox on [the D2L site](#). Submit only a single text file (**csc242lab3.py**) with each of the completed functions and classes for the lab exercises in it. Submissions after the deadline listed above will be automatically rejected by the system. See the syllabus for the grading policy.

Grading

The lab session is worth 10 points.

If you complete the lab exercises before the end of the lab session, please work on the second assignment. Remember that the rules for collaboration on assignments is different from labs. Please review the Academic Integrity pledge for more information. If you have questions about the assignment, please ask the teaching assistant for help.