Week 5: Object Oriented Programming > 9. Classes and Inheritance > Exercise 4



MITx: 6.00.1x Introduction to Computer Science and Programming ...

<u>Help</u>



Exercise 4

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Platform

Exercise 4

7 points possible (graded)

the following code:

ESTIMATED TIME TO COMPLETE: 12 minutes

▶ Entrance <u>Survey</u>

Python supports a limited form of multiple inheritance, demonstrated in

- Download Python and **Get Motivated!**
- ▶ Week 1: **Python Basics**
- ▶ Week 2: <u>Simple</u> **Programs**
- ▶ Week 3: **Structured Types**
- ▶ Week 4: Good **Programming Practices**
- Midterm Exam
- ▼ Week 5: **Object Oriented Programming**

9. Classes and **Inheritance**

Finger Exercises

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10. An Extended <u>Example</u>

Finger Exercises

Problem Set 5

Problem Set due Mar 2, 2017 15:30 PST

- ▶ Week 6: <u>Algorithmic</u> **Complexity**
- Sandbox

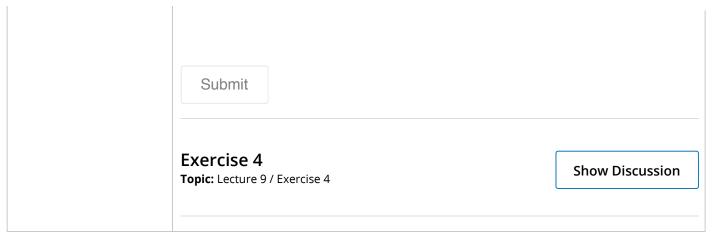
```
class A(object):
    def __init__(self):
        self.a = 1
    def x(self):
        print("A.x")
    def y(self):
        print("A.y")
    def z(self):
        print("A.z")
class B(A):
    def __init__(self):
        A. init (self)
        self.a = 2
        self.b = 3
    def y(self):
        print("B.y")
    def z(self):
        print("B.z")
class C(object):
    def __init__(self):
        self.a = 4
        self.c = 5
    def y(self):
        print("C.y")
    def z(self):
        print("C.z")
class D(C, B):
    def __init__(self):
        C. init (self)
        B. init (self)
        self.d = 6
    def z(self):
```

Which init methods are invoked and in which order is determined by the coding of the individual init methods.

When resolving a reference to an attribute of an object that's an instance of class D, Python first searches the object's instance variables then uses a simple left-to-right, depth first search through the class hierarchy. In this case that would mean searching the class [c], followed the class B and its superclasses (ie, class A , and then any superclasses it may have, et cetera).

print("D.z")

	hat is printed by each of the following statements?
	hat is printed by each of the following statements? print(obj.a)
2.	print(obj.b)
3.	print(obj.c)
4.	print(obj.d)
5.	obj.x()
6.	obj.y()
7.	obj.z()



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