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# Python 3: The Python Environment Lesson 7, Quiz 1

Handed in: 4 Jun 2015 06:25:58PM Graded: 4 Jun 2015 10:24:11PM

**Question 1:**

What are the three commonly held fundamental concepts of object-oriented programming?

##### Your Answer:

Encapsulation, Inheritance, Polymorphism

##### Mentor Comments:

*none*

**Question 2:**

What is inheritance?

##### Your Answer:

Inheritance is carried out through the Method Resolution Order for an object. First the local namespace is searched, then it searches in a left-first, depth-first method. The MRO determines what methods a subclass will inherit from its parent class(es).

##### Mentor Comments:

*none*

**Question 3:**

Encapsulation is the idea that the only way to access or change the data inside an object is by calling its methods; what is Python's take on it?

##### Your Answer:

To date, the idea of encapsulation has never really enjoyed strong support within the Python community.

##### Mentor Comments:

right. Python is very liberal by design in letting attributes be set and read directly, without

any mediation by methods, but if setters and getters are integral to your design and/or philosophy

then the property mechanism is there to help.

There's also the "descriptor" mechanism which we do not get into, but you might want to

read up on and play with: a \_\_set\_\_ and \_\_get\_\_ are introduced, making all intances

of a type self-policing you could say.

**Question 4:**

What is the method resolution order for class Puppy(Dog, Young, Untrained)?

##### Your Answer:

MRO

1.Puppy (local namespace)

2.Dog (and all subclasses)

3.Young (ditto)

4.Untrained (ditto)

##### Mentor Comments:

these baseclasses may themselves have baseclasses in which case the MRO is more twisted, but still hits them in the order you show, with other stuff in between.

https://www.python.org/download/releases/2.3/mro// (Python 3.x uses the same MRO introduced back in 2.3)

### Overall Comments:

Good work.

-Kirby

### Grade:

Great

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