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

Bookmar

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Final Exam
Final due Mar 15, 2016 at 23:30 UTC

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Problem 6-1

Consider the following hierarchy of classes:

```
class Person(object):
    def __init__(self, name):
        self.name = name
    def say(self, stuff):
        return self.name + ' says: ' + stuff
    def __str__(self):
        return self.name

class Lecturer(Person):
    def lecture(self, stuff):
        return 'I believe that ' + Person.say(self, stuff)

class Professor(Lecturer):
    def say(self, stuff):
        return self.name + ' says: ' + self.lecture(stuff)

class ArrogantProfessor(Professor):
    def say(self, stuff):
        return 'It is obvious that ' + self.say(stuff)
```

As written, this code leads to an infinite loop when using the `Arrogant Professor` class.

Change the definition of `ArrogantProfessor` so that the following behavior is achieved:

```
e = Person('eric')
le = Lecturer('eric')
pe = Professor('eric')
ae = ArrogantProfessor('eric')

>>> e.say(‘the sky is blue’)
eric says: the sky is blue

>>> le.say(‘the sky is blue’)
eric says: the sky is blue

>>> le.lecture(‘the sky is blue’)
I believe that eric says: the sky is blue

>>> pe.say(‘the sky is blue’)
eric says: I believe that eric says: the sky is blue

>>> pe.lecture(‘the sky is blue’)
I believe that eric says: the sky is blue

>>> ae.say(‘the sky is blue’)
eric says: It is obvious that eric says: the sky is blue

>>> ae.lecture(‘the sky is blue’)
It is obvious that eric says: the sky is blue
```

Paste ONLY your `ArrogantProfessor` class in the box below. Do not leave any debugging print statements.

For this question, you will not be able to see the test cases we run. This problem will test your ability to come up with your own test cases.

```
# Paste your class here
```

Unanswered

You have used 0 of 10 submissions

Problem 6-2

You change your mind, and now want the behavior as described in Part 1, except that you want:

```
>>> ae.say(‘the sky is blue’)
eric says: It is obvious that I believe that eric says: the sky
is blue

>>> ae.lecture(‘the sky is blue’)
It is obvious that I believe that eric says: the sky is blue
```

Change the definition of `ArrogantProfessor` so that the behavior described above is achieved.

Paste ONLY your `ArrogantProfessor` class in the box below. Do not leave any debugging print statements.

For this question, you will not be able to see the test cases we run. This problem will test your ability to come up with your own test cases.

```
# Paste your class here
```

Unanswered

You have used 0 of 10 submissions

Problem 6-3

You change your mind once more. You like the behavior from Part 2, but now you would like:

```
>>> pe.say('the sky is blue')
Prof. eric says: I believe that eric says: the sky is blue

>>> ae.say('the sky is blue')
Prof. eric says: It is obvious that I believe that eric says:
the sky is blue
```

Change one class definition in order to achieve this.

Paste ONLY the one class that you changed in the box below. Do not leave any debugging print statements.

For this question, you will not be able to see the test cases we run. This problem will test your ability to come up with your own test cases.

```
# Paste your class here
```

Unanswered

You have used 0 of 10 submissions