L11 PROBLEM 4 (5/5 points)

Consider the following code from the last lecture video:

```
class Coordinate(object):
    def __init__(self, x, y):
        self.x = x
        self.y = y

    def getX(self):
        # Getter method for a Coordinate object's x coordinate.
        # Getter methods are better practice than just accessing an attribute directly
        return self.x

    def getY(self):
        # Getter method for a Coordinate object's y coordinate
        return self.y

    def __str__(self):
        return '<' + str(self.getX()) + ',' + str(self.getY()) + '>'
```

Your task is to define the following two methods for the `Coordinate` class:

1. Add an `__eq__` method that returns True if coordinates refer to same point in the plane (i.e., have the same x and y coordinate).

2. Define `__repr__`, a special method that returns a string that looks like a valid Python expression that could be used to recreate an object with the same value. In other words, `eval(repr(c)) == c` given the definition of `__eq__` from part 1.

   For more on `__repr__`, see this SO post (http://stackoverflow.com/questions/452300/python-object-repr-self-should-be-an-expression).

```
9         return self.x
10
11    def getY(self):
12        # Getter method for a Coordinate object's y coordinate
13        return self.y
14
15    def __str__(self):
16        return '<' + str(self.getX()) + ',' + str(self.getY()) + '>'
17
18    def __eq__(self, other):
19        return self.x == other.getX() and self.y == other.getY()
20
21    def __repr__(self):
22        return "Coordinate(%d, %d)" % (self.x, self.y)
23
24
```

Correct

```
class Coordinate(object):
    def __init__(self,x,y):
        self.x = x
        self.y = y

    def getX(self):
        # Getter method for a Coordinate object's x coordinate.
        # Getter methods are better practice than just accessing an attribute directly
        return self.x

    def getY(self):
        # Getter method for a Coordinate object's y coordinate
        return self.y

    def __str__(self):
        return '<' + str(self.getX()) + ',' + str(self.getY()) + '>'

    def __eq__(self, other):
        # First make sure `other` is of the same type
        assert type(other) == type(self)
        # Since `other` is the same type, test if coordinates are equal
        return self.getX() == other.getX() and self.getY() == other.getY()

    def __repr__(self):
        return 'Coordinate(' + str(self.getX()) + ', ' + str(self.getY()) + ')'
```

Test results

See full output

CORRECT

See full output

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