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## CS21 Quiz 6, Swarthmore College Fall 2015

1. Given the following class and `main()`, show the value and type of the expressions below.

```
class PennyJar(object):
    def __init__(self, name):
        self.owner = name
        self.pennies = 0

    def __str__(self):
        s = "%s's penny jar contains %d pennies" % (self.pennies)
        return s

    def current_value(self):
        return self.pennies

    def deposit(self, pennies):
        self.pennies = self.pennies + pennies

    def get_name(self):
        return self.name

    def is_empty(self):
        if self.pennies == 0:
            return True
        else:
            return False

def main():
    pj1 = PennyJar("Rich")
    pj2 = PennyJar("Andy")
    pj2.deposit(50)

if __name__ == "__main__":
    main()
```

	VALUE	TYPE
	-----	----
<code>str(pj2)</code>		
<code>pj1.get_name()</code>		
<code>pj1.is_empty()</code>		
<code>pj2.current_value()</code>		
<code>pj1.current_value() &gt; pj2.current_value()</code>		

2. Write a `TrainTicket` class that represents an train ticket you might buy. Each `TrainTicket` stores the destination you are traveling, the cost of the ticket and whether you are traveling in standard or first class. The constructor sets the destination and the cost from parameters, but the ticket is always created as a standard class ticket. Also include the following:
  - a `__str__` method to allow printing of the ticket.
  - an **upgrade** method that changes the ticket from standard to first class and doubles the cost of the ticket. (If the ticket is already first class, this method does nothing.)
  - a **main** function to test the `TrainTicket` class. This function should create a `TrainTicket` to Miami that costs 200 dollars. You should then upgrade the ticket to first class and print out the ticket.

3. Write a function called `count()` that uses recursion to compute and return the number of times an item appears in a list. Your function should have two parameters, the list to check and the item to search for. For example:

```
count([], 3) → 0
count([6, 3, 9, 6], 6) → 2
count([6, 3, 9, 6], 7) → 0
```