L2 PROBLEM 6 (2/2 points)

1. Is the following code deterministic or stochastic?

```
import random
mylist = []

for i in xrange(random.randint(1, 10)):
    random.seed(0)
    if random.randint(1, 10) > 3:
        number = random.randint(1, 10)
        mylist.append(number)
print mylist
```

- ○ Deterministic
- ◉ Stochastic ✔

EXPLANATION:

Answer: Stochastic

This code sample returns a list of 8s. The length of the list is determined by a stochastic variable (the first call to `randint`). If you are using Canopy, you will notice that the very first time you run the program, the length of the array varies. If you keep clicking the green run button to re-run the program, the length of the array will always be 3. This is because we have set the seed. To completely reset, you will have to restart the kernel via the menu option (Run -> Restart Kernel) or via the keyboard (Ctrl with the period key).

2. Which of the following alterations (Code Sample A or Code Sample B) would result in a deterministic process?

```
import random

# Code Sample A
mylist = []

for i in xrange(random.randint(1, 10)):
    random.seed(0)
    if random.randint(1, 10) > 3:
        number = random.randint(1, 10)
        if number not in mylist:
            mylist.append(number)
print mylist



# Code Sample B
mylist = []

random.seed(0)
for i in xrange(random.randint(1, 10)):
    if random.randint(1, 10) > 3:
        number = random.randint(1, 10)
        mylist.append(number)
    print mylist
```

Check one, none, or both.

- [x] Code Sample A
- [x] Code Sample B

EXPLANATION:

Answer: Both! Code Sample A will always return [8]. Code Sample B will always return [5, 5, 4, 6, 6, 7]. Therefore both of these versions of the original code are deterministic.

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