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6.1120 Fall 2022

Miniquiz #16

5 Minutes

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**1. Consider the following MITScript program:**

```
x = {a:1; b:2; p:None};  
y = 3;  
x.p = x;  
x.b = y;  
y = x.a;  
x = 4;
```

**Assuming that reference counting is used to perform garbage collection:**

- a) At the end of the program, what is the reference count of each object that was allocated in the program (including all the integer constants, the None constant, and the record object)?**
- Integer(1):
  - Integer(2):
  - Integer(3):
  - Integer(4):
  - None:
  - {a:1; ...}:
- b) Which objects can be safely deallocated by the end of the program (using reference counting)?**