

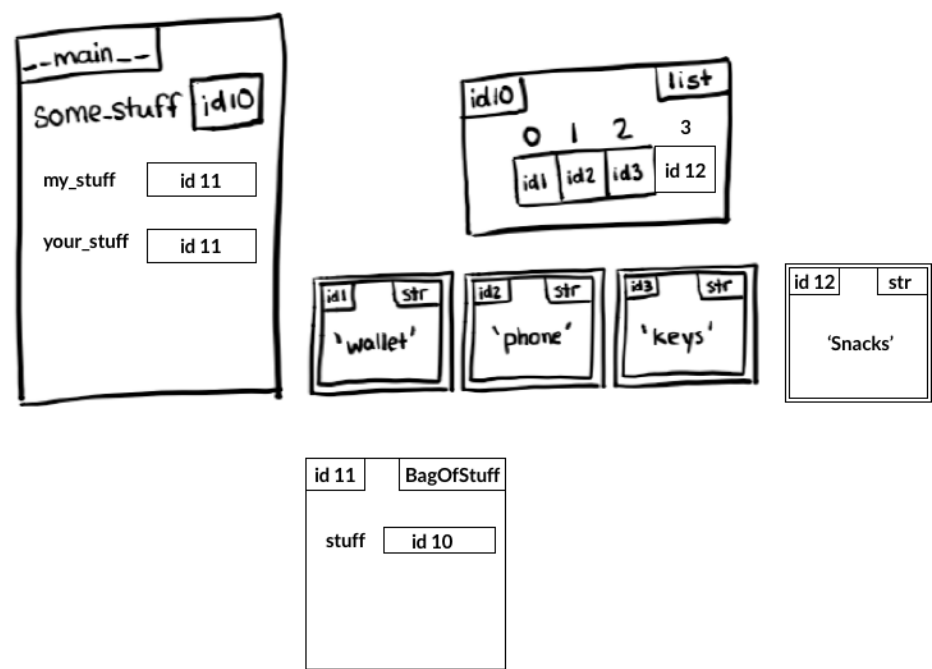
CSC148 Midterm Version 1 Solution

Hyungmo Gu

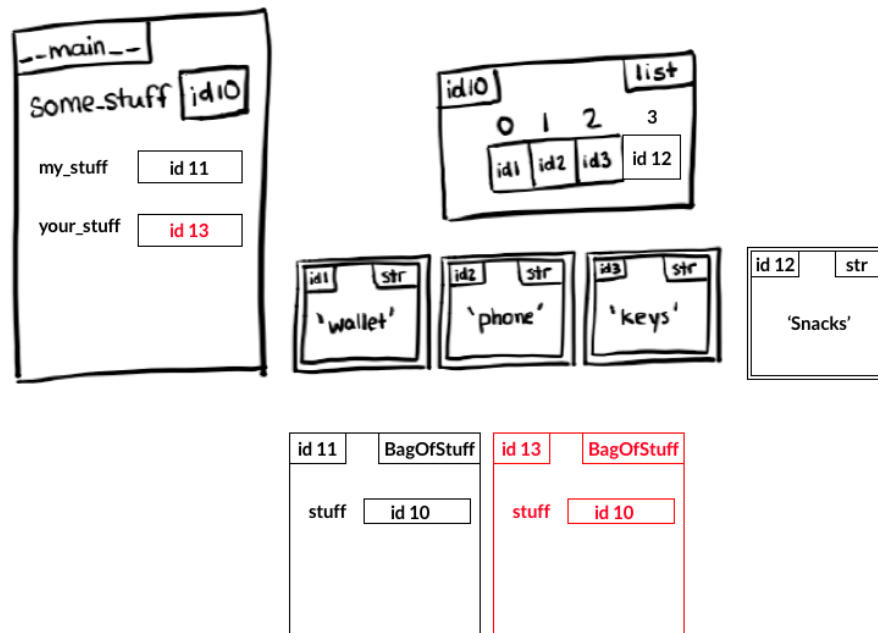
April 27, 2020

Question 1

a.



Correct Solution:



- b. First, we need to write what causes the assertion to fail

The assertion fails because the instance attribute *stuff* in two different instances of class 'BagOfStuff' are pointing to the same list.

Second, we need to write down how to fix this issue.

To fix this issue, we need make sure *stuff* don't point to the list in same memory location. This is done by changing the line from

```
1 self.stuff = stuff
```

```
2
```

to

```
1 self.stuff = [x for x in stuff]
```

```
2
```

Question 2

- | Class 1 | Class 2 | Composition? | Inheritance? | Neither? |
|---------------|------------------------|--------------|--------------|----------|
| Chirper | Cheep | | x | |
| Customer | Item | x | | |
| ExpressLine | Customer | x | | |
| ExpressLine | SelfServeLine | | x | |
| PriorityQueue | Container | | | x |
| GroceryStore | GroceryStoreSimulation | x | | |

Correct Solution:

| Class 1 | Class 2 | Composition? | Inheritance? | Neither? |
|---------------|------------------------|--------------|--------------|----------|
| Chirper | Cheep | x | | |
| Customer | Item | x | | |
| ExpressLine | Customer | x | | |
| ExpressLine | SelfServeLine | | | x |
| PriorityQueue | Container | | x | |
| GroceryStore | GroceryStoreSimulation | x | | |

Notes:

- Learned that composition is commonly thought as ‘has a’ relationship
- Learned that inheritance is commonly thought as ‘is a’ relationship

Question 3

•

Question 4

Question 5

Question 6

Question 7