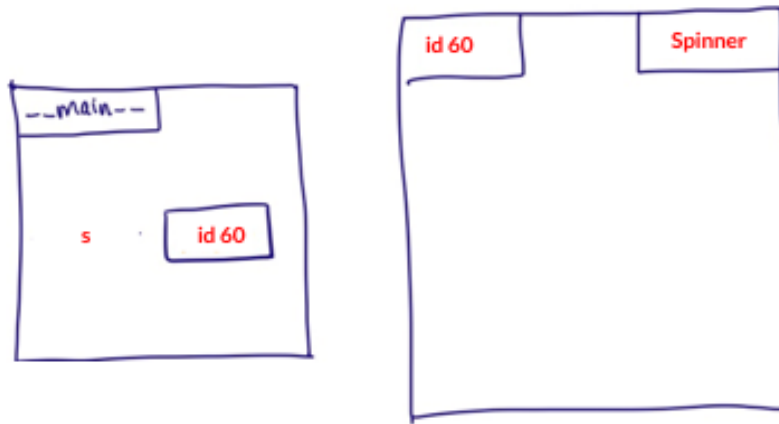# CSC148 Worksheet 3 Solution

Hyungmo Gu
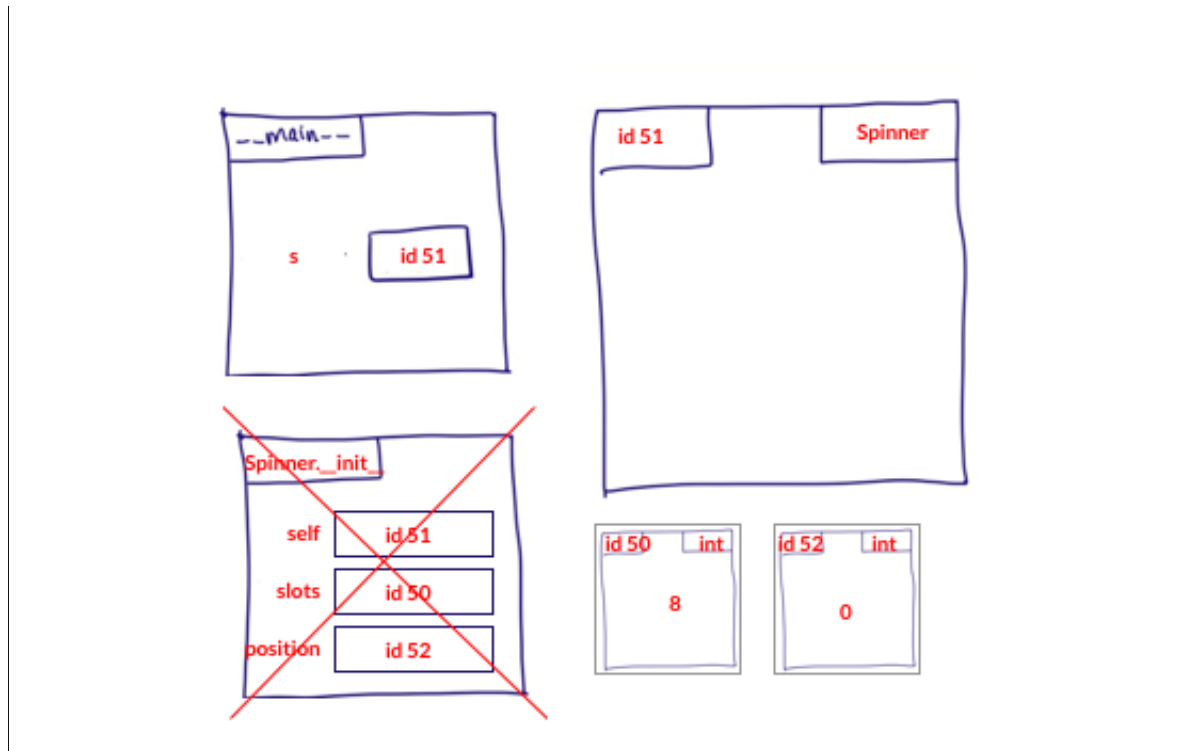
April 16, 2020

Question 1

i. The memory diagram for this code is the following

Correct Solution:

Notes:

- Noticed that professor assigns id in order of execution.
- Is there a source or tutorial where this concept can be practiced? I feel super shaky about the concepts of memory model :(.
- Learned that attribute types in an object can be declared as following

```python
from datetime import date


class Tweet:
    """A tweet, like in Twitter.

    === Attributes ===
    content: the contents of the tweet.
    userid: the id of the user who wrote the tweet.
    created_at: the date the tweet was written.
    likes: the number of likes this tweet has received.
    """
    # Attribute types
    userid: str
    created_at: date
    content: str
    likes: int

```

- Learned that attribute types doesn't create variables on initialization.

2

ii. The initializer of Spinner class creates variables 'slots' and 'position' at global level
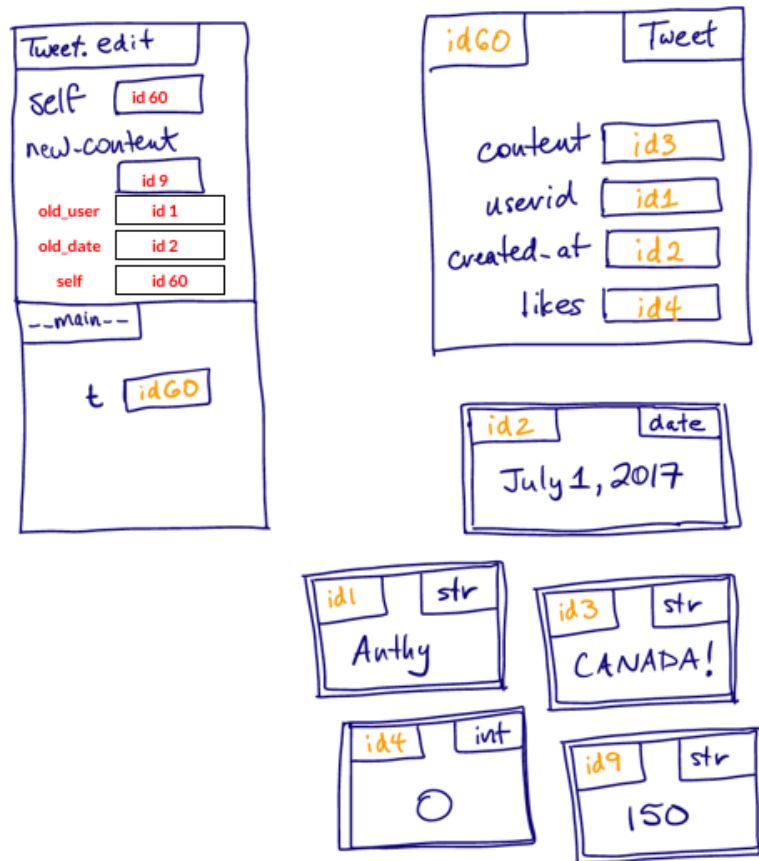
> **Correct Solution:**
>
> The initializer of Spinner class creates variables 'slots' and 'position' at local level within the method.

iii. AttributeError is raised when doctest is run.

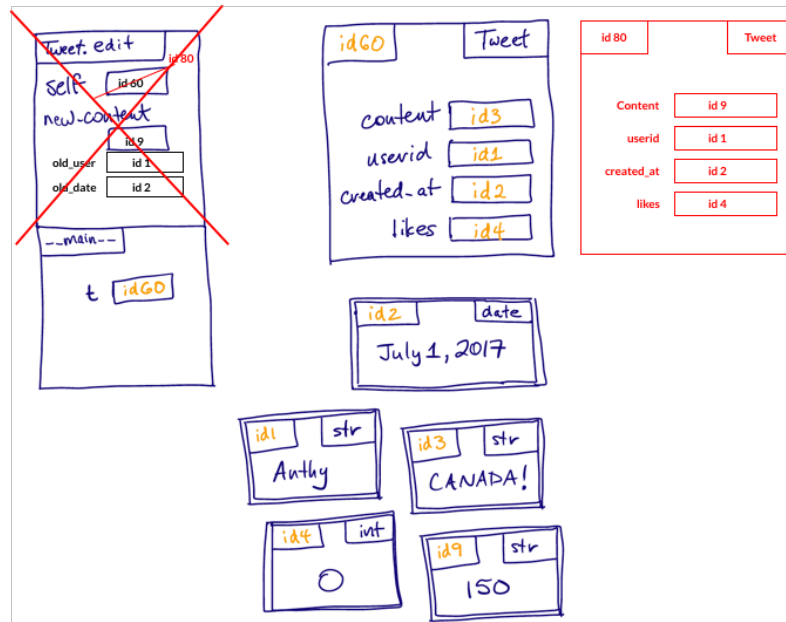# Question 2

- 'CANADA!' is returned because self is immutable.

Correct Solution:

'CANADA!' is returned because self is reassigned to id 80, but in local scope for the duration of the method call.
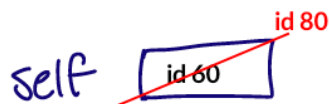

Notes:

– Noticed that professor marks an 'axe' to method or functions that gets terminated during the duration of a program

– Noticed that professor marks a 'slash' to a variable or an attribute that changes during the duration of a program.

Question 3

```python
class Tweet:
    ...
    def edit(self, new_content: str) -> None:
    """Replace the contents of this tweet with the new message.
    >>> t = Tweet(
    Rukhsana
    , date(2017, 9, 16),
    Hey!
    )
    >>> t.edit(
    Rukhsana is cool
    )
    >>> t.content

    Rukhsana is cool

    """

    self.content = new_content
```