CLASSES:

ASSIGNMENT & COPY

Overview:

- explain how to copy class objects

Object Assignment

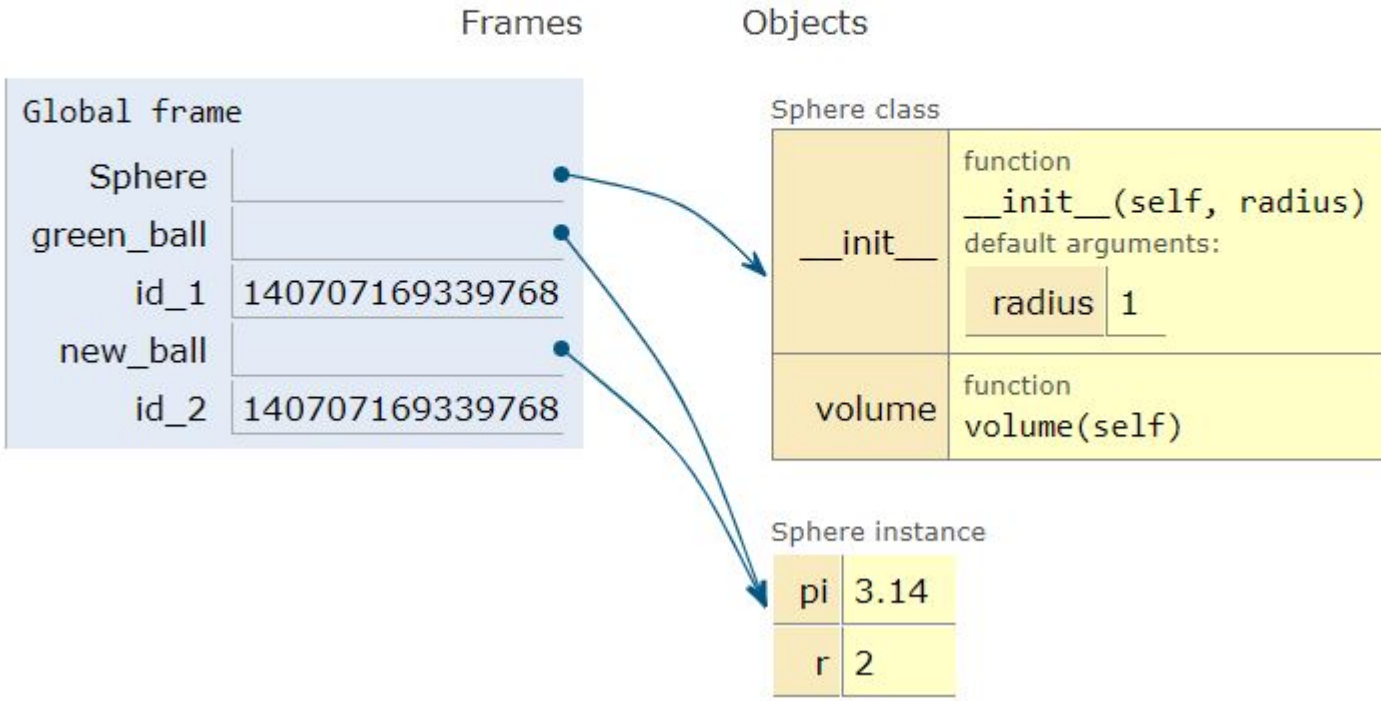

```
green_ball  = Sphere(2)
id_1 = id(green_ball)

new_ball = green_ball
id_2 = id(new_ball)

print('green_ball  id:', id_1)
print('new_ball    id:', id_2)
```

```
green_ ball  id: 140707169339768
new_ball     id: 140707169339768
```

- simply "retagging"

Assignment & Copy

```
green_ ball  id: 140707169339768
new_ball     id: 140707169339768
```

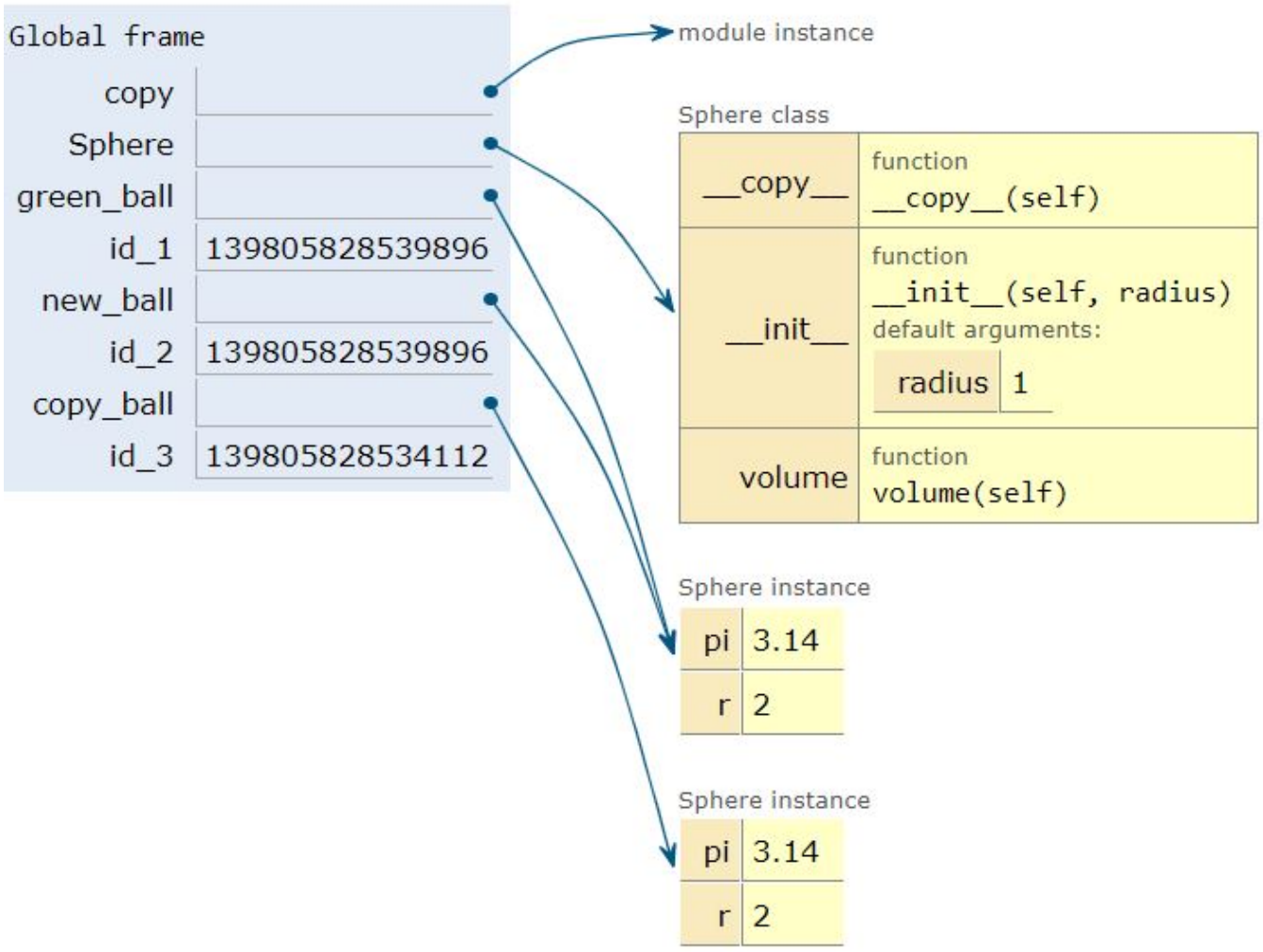


- to copy an object, need to implement *__copy__()* method

Copying Objects

```
import copy
class Sphere():
    def __init__(self, radius = 1):
        self.pi = 3.14
        self.r = radius

    def volume(self):
        return 4 * self.pi * self.r**3 / 3

    def __copy__(self):
        return Sphere(self.r)

green_ball  = Sphere(2)
id_1        = id(green_ball)
new_ball    = green_ball
id_2        = id(new_ball)
copy_ball   = copy.copy(green_ball)
id_3        = id(copy_ball)

print('green_ ball id:', id_1)
print('new_ball    id:', id_2)
print('copy_ball   id:', id_3)
```

Copying Objects



- "shallow" copy only

Exercise(s):

- add a *copy* method to allow copying for the *Circle* class