Environment Diagrams - CS61A Review

<https://goo.gl/Z6GNwi>

## Warmup

Draw the environment diagram after executing the following code.

x = 2

def dread(pirate):

x = 30

def roberts(westley):

x = 400

return westley + pirate(x)

return roberts(x)

dread(lambda spot: x + spot)

## Question 1

Draw the environment diagram after executing the following code.

def summer(sun):

def beach(summer, sun):

return [summer(sun+1)]

def fun(beach):

nonlocal sun

sun = sun + 2

beach = lambda s: [s, sun]

return beach(3)

beach(fun, sun)

summer(4)

## 

## Question 2

Draw the environment diagram after executing the following code.

**Hint**: What’s the order of operations when making a function call?

def campa(nile):

def ding(ding):

nonlocal nile

def nile(ring):

return ding

return nile(ding(1914)) + nile(1917)

ring = campa(lambda nile: 100)

## Question 3

Draw the environment diagram after executing the following code.

**Hint**: Be *very* careful with nonlocal here!

def betray(cube):

def cake():

nonlocal cake

def cake():

nonlocal cake

cake = lambda: 5

return cube(10) + 1

return 31

return cake() \* cake() \* cake()

betray(lambda fire: fire + 2)