Exercise 4

Draw a stack diagram for the following program. What does the program print?

```
def b(z):
    prod = a(z, z)
    print z, prod
    return prod

def a(x, y):
    x = x + 1
    return x * y

def c(x, y, z):
    total = x + y + z
    square = b(total)**2
    return square

x = 1
y = x + 1
print c(x, y+3, x+y)
```

<module>

x → 1
y → 2

c

x → 1
y → 5
z → 3
total → 9
square → b(9)**2
square → 8100

b(9) = 90

output = 90

8100

b

z → 9
prod → a(9, 9)
prod = 90

x * y = 90

a

x → 9
y → 9
x → 10
returns x * y