

What gets printed, Round 1

```
a = 0      a = 0      a = 0      a = 0      a = 0
print(a)   a = a + 1  if a == 0:  if a == 1:  if a == 0:
            print(a)  | a = a + 1 | a = a + 1 | a = a + 1 |
              | a = a + 1 | a = a + 1 | a = a + 1 |
                print(a)  print(a)    a = a + 1
                        print(a)
```

0	1	1	0	2
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What gets printed? (Solution)

```
a = 0      Executed
if a == 0:  Executed
  a = a + 1  Executed
if a == 0:  Executed
  a = a + 2  Skipped
a = a + 1   Executed
```

A: 0
B: 1
C: 2 **CORRECT**
D: 3
E: I do not know

```
print(a)
```



12

What gets printed, Round 2

```
a = 0      a = 0      a = 0      a = 0
if a == 0:  if a == 1:  if a == 1:  if a == 1:
  a = a + 1  a = a + 1  a = a + 1  a = a + 1
else:       else:       else:       else:
  a = a + 2  a = a + 2  a = a + 2    a = a + 1
              a = a + 1
print(a)    print(a)    print(a)    a = a + 1
              print(a)                print(a)
```

1	2	3	3
---	---	---	---

16

What does the call frame look like next? (A)

```
def max(x,y):
1  if x > y:
2  | return x
3  return y
```

max(0,3)
Current call frame:

max	1
x	0
y	3



A:

max	1 2
x	0
y	3

B:

max	1 2 3
x	0
y	3
RETURN	0

C:

max	1 2 3
x	0
y	3
RETURN	3

D:

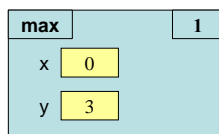
max	1 3
x	0
y	3

30

Call Frame Explanation (1)

```
def max(x,y):
1  if x > y:
2  | return x
3  return y
```

max(0,3):

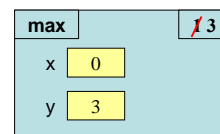


31

Call Frame Explanation (2)

```
def max(x,y):
1  if x > y:
2  | return x
3  return y
```

max(0,3):



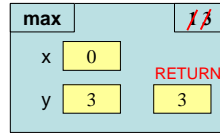
Skips line 2

32

Call Frame Explanation (3)

```
def max(x,y):
1 | if x > y:
2 | | return x
3 | return y
```

max(0,3):



33

Control Flow and Variables (A1)

```
def max(x,y):
    """Returns: max of x, y"""
    # note: code has a bug!
    # check if x is larger
    if x > y:
        bigger = x
    return bigger
```

maximum = max(3,0)

Value of maximum?

A: 3 **CORRECT**
 B: 0
 C: **Error!**
 D: I do not know

- Local variables last until
 - They are deleted or
 - End of the function
- Even if defined inside **if**



38

Control Flow and Variables (A2)

```
def max(x,y):
    """Returns: max of x, y"""
    # note: code has a bug!
    # check if x is larger
    if x > y:
        bigger = x
    return bigger
```

maximum = max(0,3)

Value of maximum?

A: 3
 B: 0
 C: **Error! CORRECT**
 D: I do not know

- Variable existence depends on flow
- Generally terrible idea to refer to variables defined inside an **if** clause



40

If-Elif-Else (Answer)

a = 2

```
if a == 2:
    a = 3
elif a == 3:
    a = 4
print(a)
```

What gets printed?

A: 2
 B: 3 **CORRECT**
 C: 4
 D: I do not know



45

What gets printed, Round 3

```
a = 2          a = 2
if a == 2:    if a == 2:
| a = 3      | a = 3
elif a == 3:  if a == 3:
| a = 4      | a = 4
print(a)     print(a)
```

3	4
---	---

47