

COMP
110

CL03 - Memory Diagrams +
Conditionals Practice

Conditionals Practice

```
1 x: int =
2 y: int = 9
3
4 if x % 2 == 0:
5     print("A")
6     if x == 2:
7         print("B")
8 else:
9     if x < y:
10        print("C")
11 if x ** 2 == y:
12    print("D")
```

Choose a value of x (if possible) to give the following outputs:

1.

2.

3.

4.

5.

6.

len() function

- Function you can use on strings!
- `len("Hello")` → 5

Relative Reassignment

Reassigning a variable relative to its current value: `i = i + 1`

Addition re-assignment operator shorthand has the same effect: `i += 1`

Since you will use meaningfully descriptive variable names, this is a big improvement!

`total_dollars = total_dollars + next_donation` vs `total_dollars += next_donation`

Before	After
<code>i = i + expr</code>	<code>i += expr</code>
<code>i = i - expr</code>	<code>i -= expr</code>
<code>i = i * expr</code>	<code>i *= expr</code>
<code>i = i / expr</code>	<code>i /= expr</code>
<code>i = i % expr</code>	<code>i %= expr</code>
<code>i = i // expr</code>	<code>i //= expr</code>
<code>i = i ** expr</code>	<code>i **= expr</code>

Memory Diagram

```
1 x: str = "Hello"  
2 y: int = len(x)  
3 if y % 4 == 1:  
4 |     y *= 2  
5 y -= 6  
6 print(y)  
7 print(x[y])
```

Stack

Globals

Output

Memory Diagram

```
1  x = 1
2  y = 2
3  z = "x"
4
5  if x > y:
6  |   print(str(x))
7  else:
8  |   if y % 2 == 0:
9  |   |   print(str(y))
10 print(z)
```

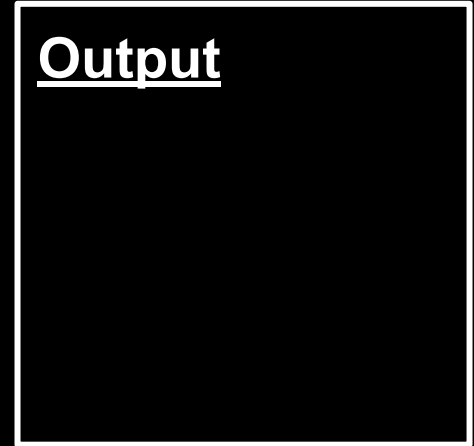
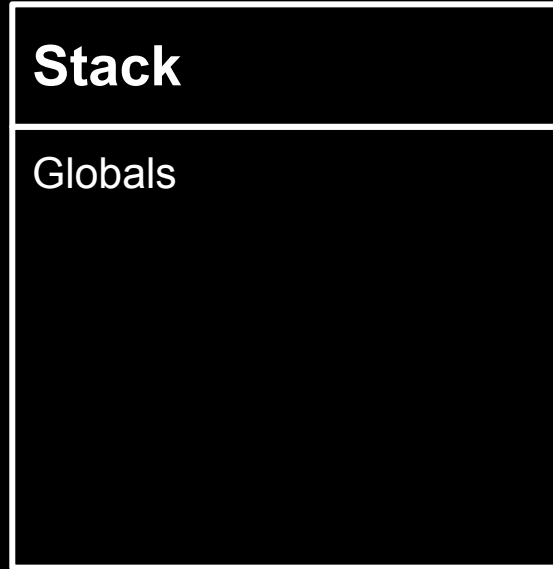
Stack

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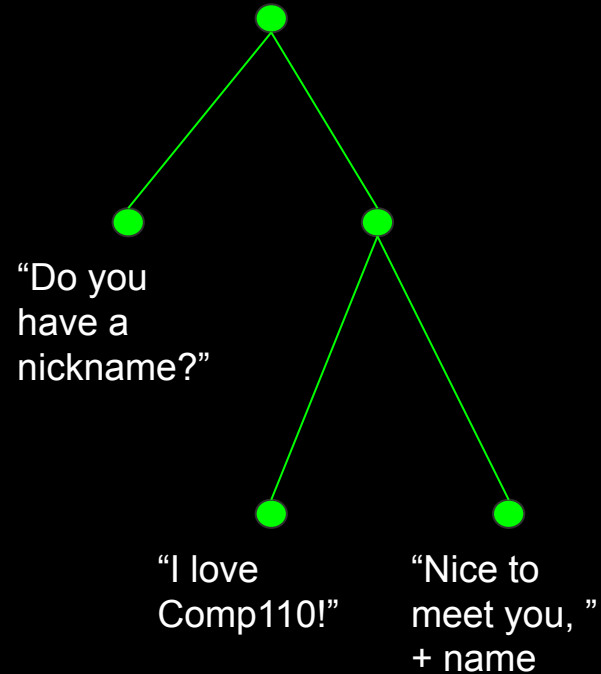
Output

Memory Diagram

```
1 a: int = 2
2 b: int = 6
3 if a > b:
4     |   print(a-b)
5 elif b < 10:
6     |   print(b/a)
7 else:
8     |   print(a+b)
9 print(b)
```




```
1 name: str = input("Name? ")
2
3 if len(name) > 6:
4     print("Do you have a nickname?")
5 else:
6     if name == "Alyssa":
7         print("I love Comp110!")
8     else:
9         print("Nice to meet you, " + name)
```

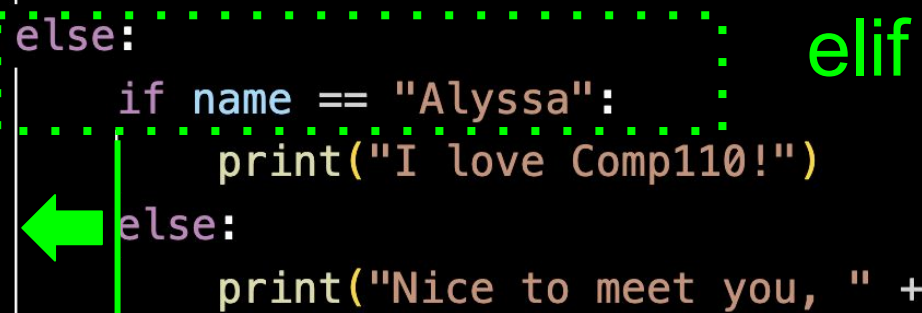


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elif

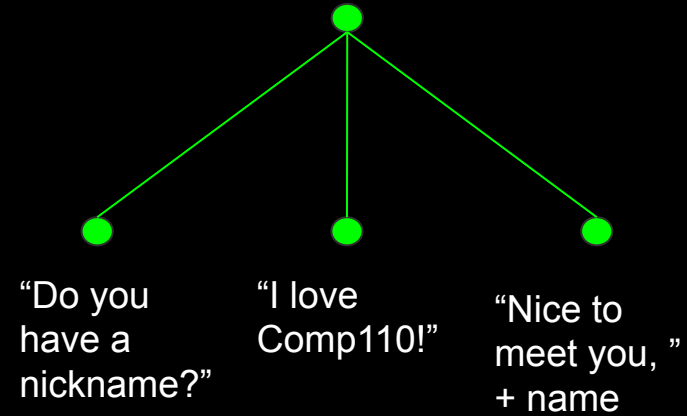
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