



# CL02 - 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.

A  
B 2

2.

A  
Any even #  
greater than 2;  
4,6,10

3.

C  
Odd less  
than 9 and  
x doesn't  
equal 3

4.

D  
not  
possible

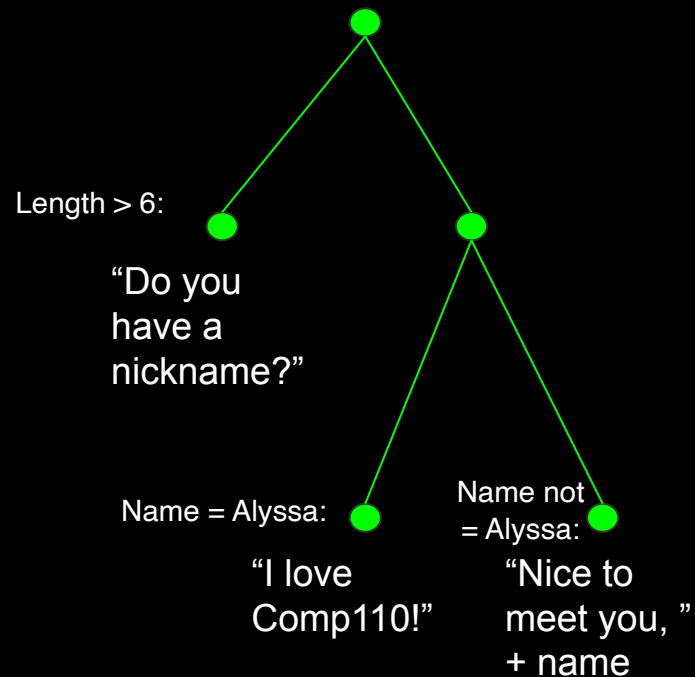
5.

C 3  
D or -3

6.

A not  
D possible

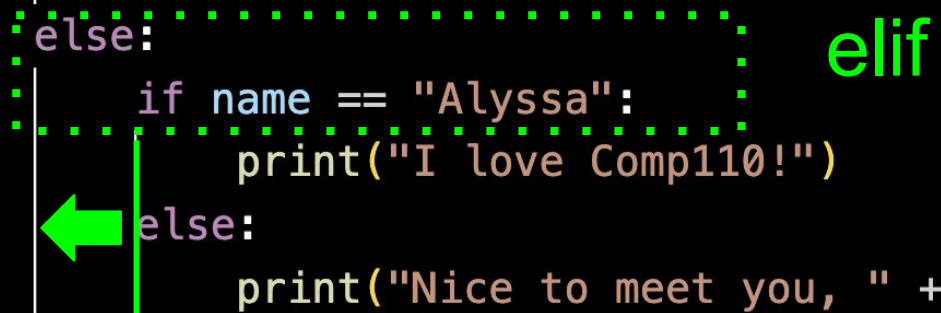
```
1 name: str = input("Name? ")
2     (length)
3 if len(name) > 6:
4     print("Do you have a nickname?")
5 else:
6     if name == "Alyssa":
7         print("I love Comp110!")
8     else:
9         print("Nice to meet you, " + name)
```



```
1 name: str = input("Name? ")
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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)
```

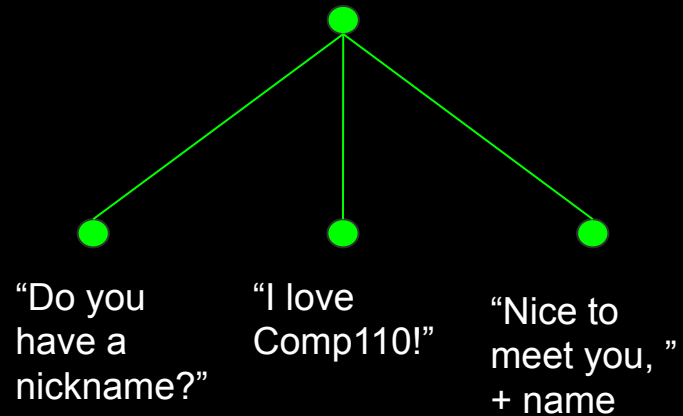
elif

```
1 name: str = input("Name? ")
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3 if len(name) > 6:
4     print("Do you have a nickname?")
5 else:
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8     else:
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```



The diagram illustrates an if-elif-else structure. A green dashed box encloses the 'else' block (lines 5-7). A green arrow points to the 'else:' line (line 8).

```
1 name: str = input("Name? ")
2
3 if len(name) > 6:
4     print("Do you have a nickname?")
5 elif:
6     if name == "Alyssa":
7         print("I love Comp110!")
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```



```
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)
```

Key word to  
unindent  
everything



```
1 name: str = input("Name? ")
```

```
2
```

```
3 if len(name) > 6:
```

```
4 |     print("Do you have a nickname?")
```

```
5 elif name == "Alyssa":
```

```
6 |     print("I love Comp110!")
```

```
7 else:
```

```
8 |     print("Nice to meet you, " + name)
```

# 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)
```

F

T

6/2



## Stack

Globals

a	2
b	6

if elif is  
true dont  
print out  
else

## Output

"3.0"  
"6"

When you divide  
you get a float and  
print the number  
back with a .0



# Memory Diagram

```
1 x: str = "Hello"
2 y: int = len(x)
3 if y % 4 == 1:
4     | → y *= 2
5     y -= 6      5 x 2 = 10
6     print(y)    10 - 6 = 4
7     print(x[y])

Hello
01234
```

## Stack

### Globals

X "Hello"

Y ~~5~~ ~~10~~ 4

## Output

4  
"O"

4th letter is O