

Conditionals

making decisions

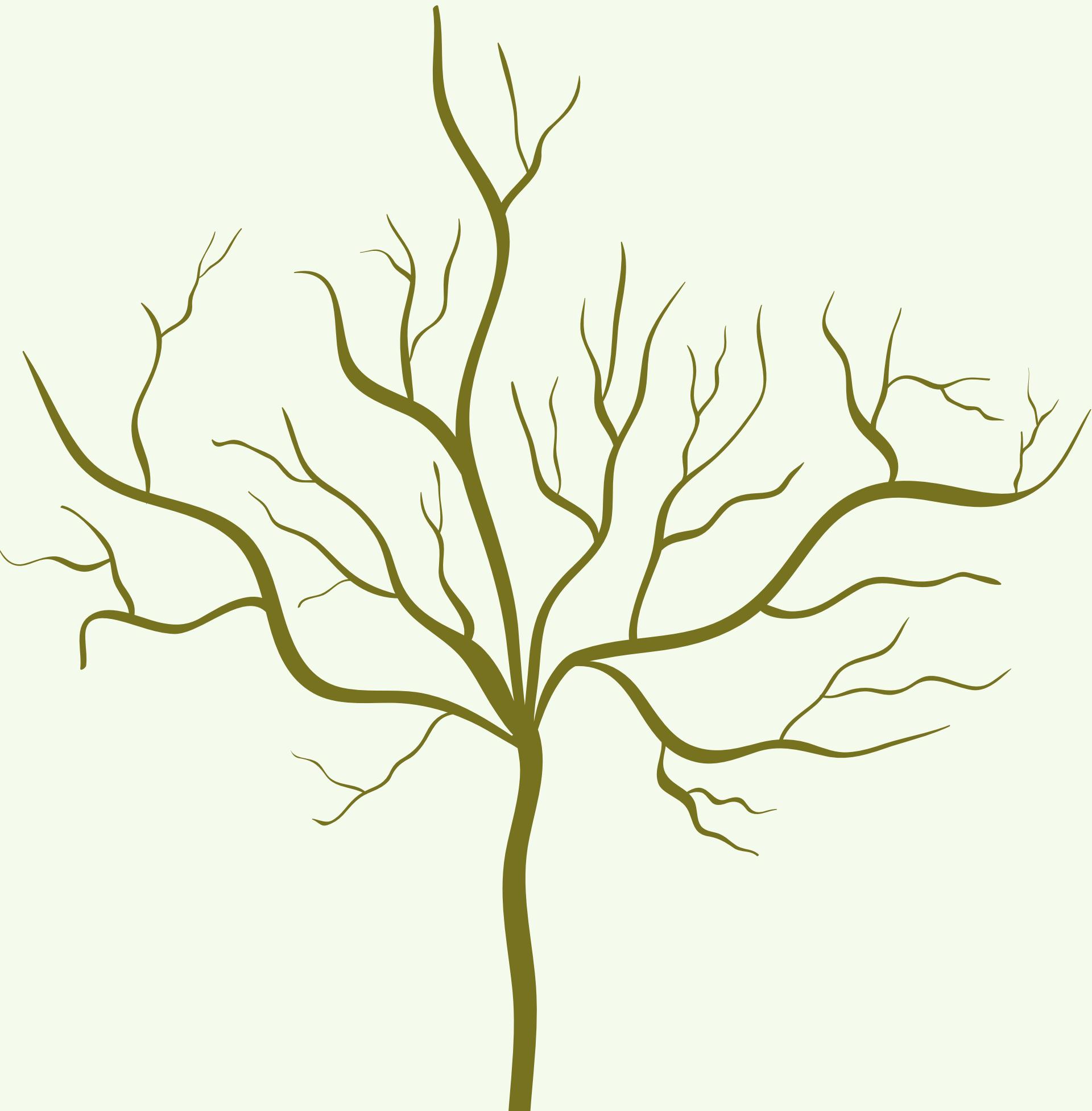
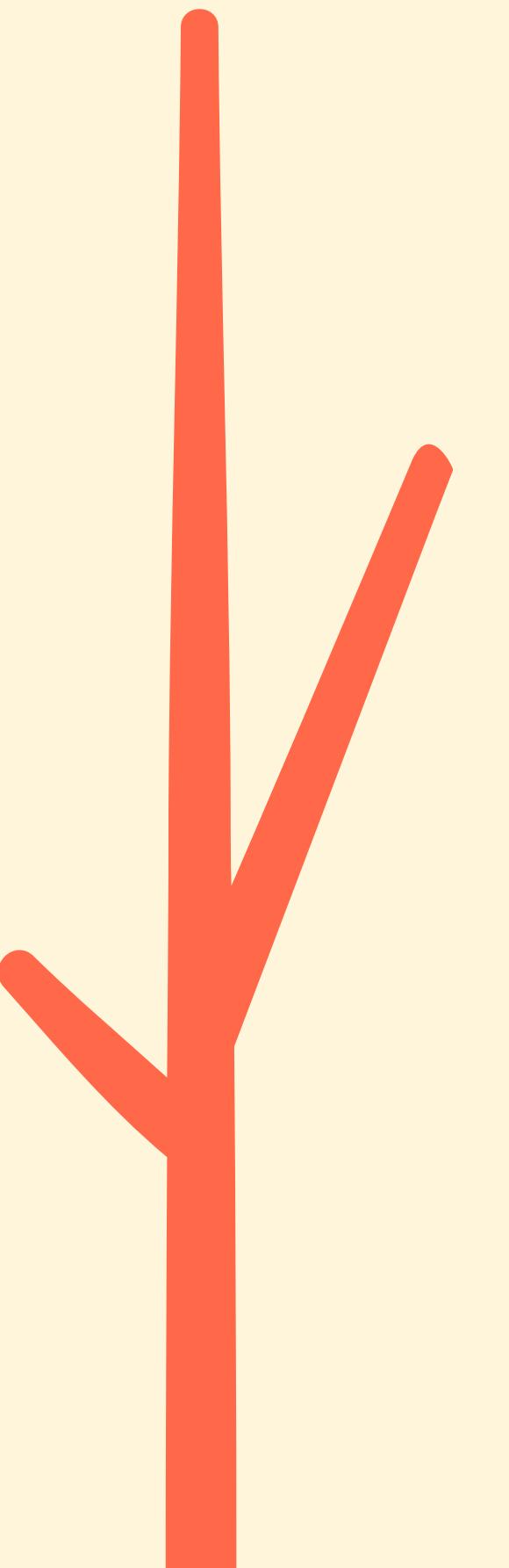




Conditionals

How do we make decisions with code
and have different outcomes??









Decisions

Are You Over 21?

yes

Come on in!

no

Go home kid.





age \geq 21

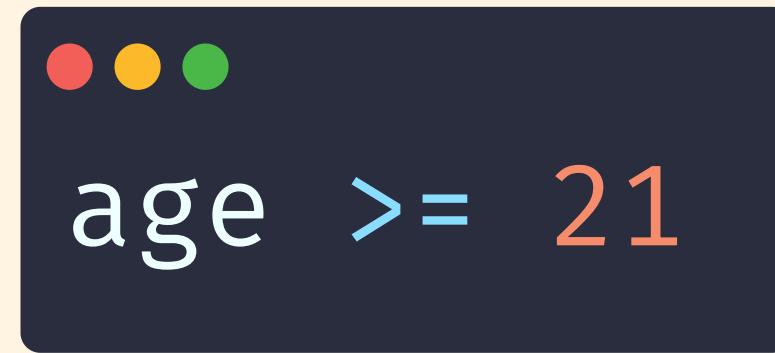
Are You Over 21?

yes

Come on in!

no

Go home kid.



Are You Over 21?

yes

Come on in!

no

Go home kid.



```
age >= 21
```

Are You Over 21?

yes

Come on in!

no

Go home kid.



```
print("Come on in!")
```



```
age >= 21
```

Are You Over 21?

yes



Come on in!

no



Go home kid.



```
print("Come on in!")
```



```
print("Go home kid.")
```

```
● ● ●  
age >= 21
```

Are You Over 21?

yes

HOW???

no

Come on in!

Go home kid.

```
● ● ●
```

```
print("Come on in!")
```

```
● ● ●
```

```
print("Go home kid.")
```

Conditionals

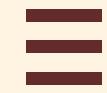
```
...  
if age >= 21:  
    print("Come on in!")  
else:  
    print("Go home kid")
```

≡

if Statement

```
if
```

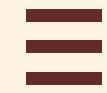




if Statement

```
if condition
```





if Statement

```
if condition:
```

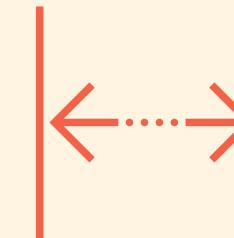




if Statement

```
if condition:
```

Indent - 4 Spaces



*4 spaces is standard, but you can use
fewer as long as you are consistent

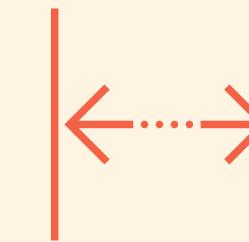




if Statement

```
if condition:
```

Indent - 4 Spaces



```
code that runs if  
condition is True
```

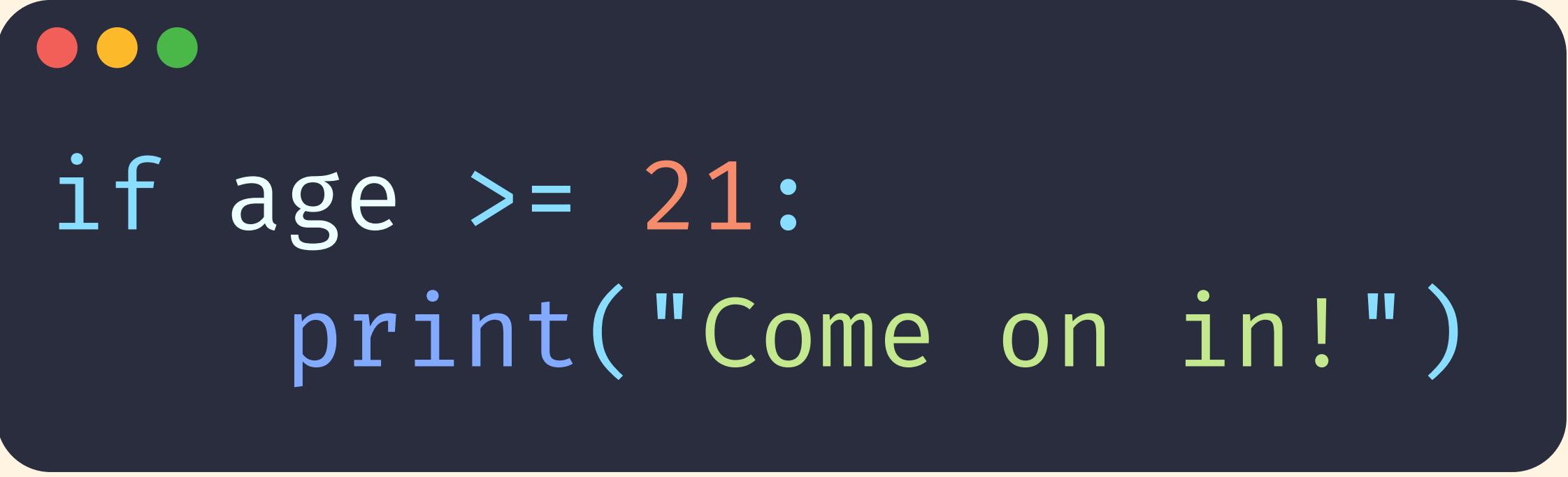




```
if age >= 21:  
    print("Come on in!")
```



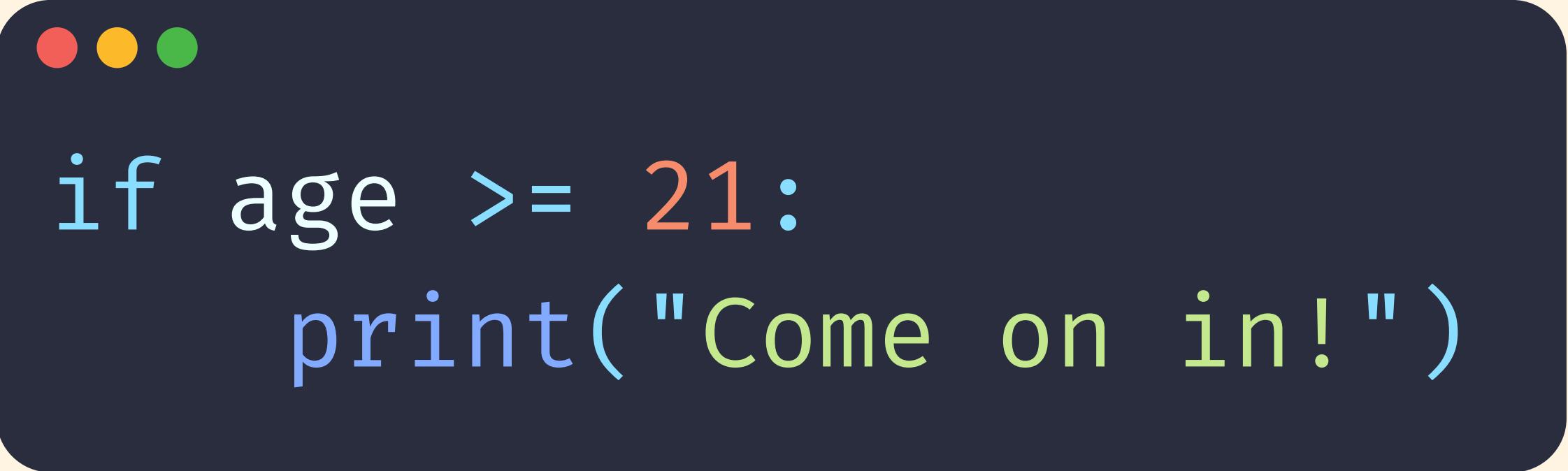
```
age = 62
```



```
if age >= 21:  
    print("Come on in!")
```



```
age = 62
```

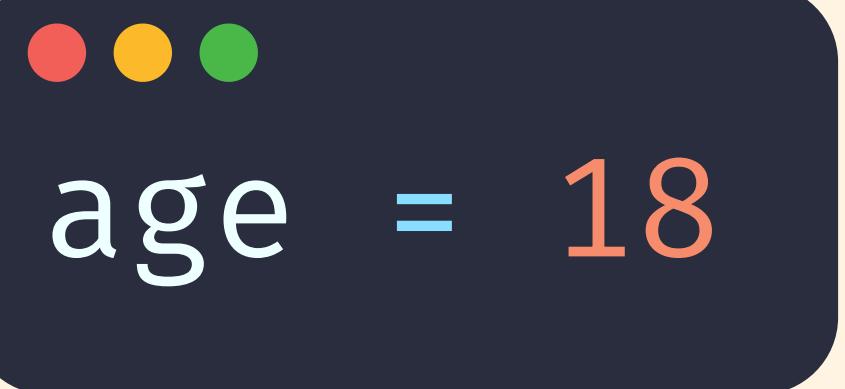


```
if age >= 21:  
    print("Come on in!")
```

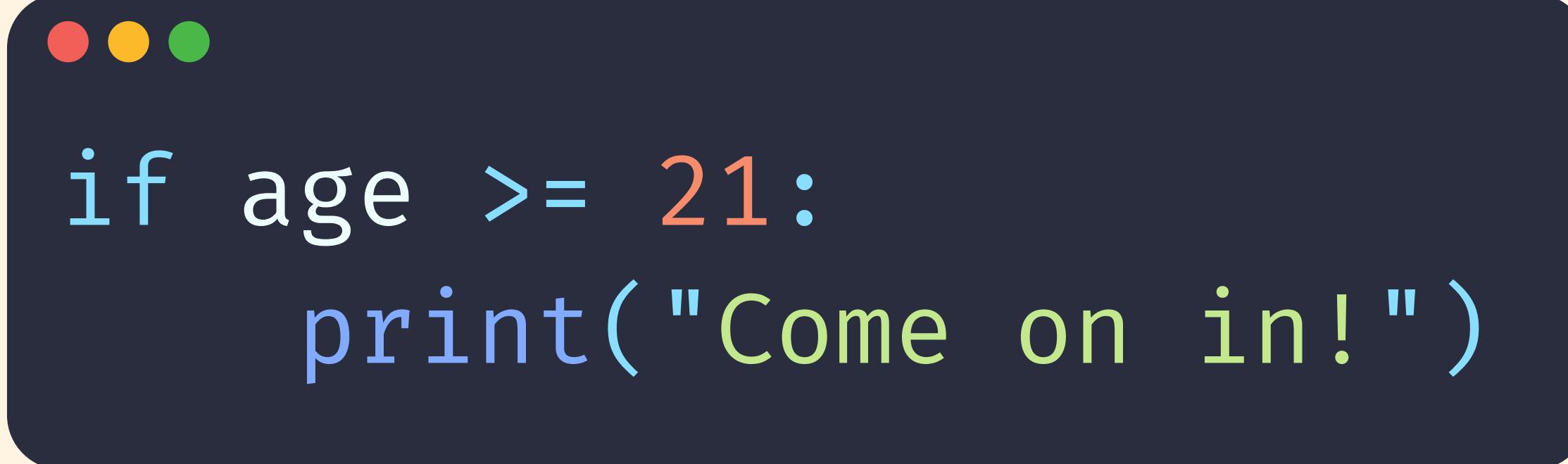
"Come on in!"



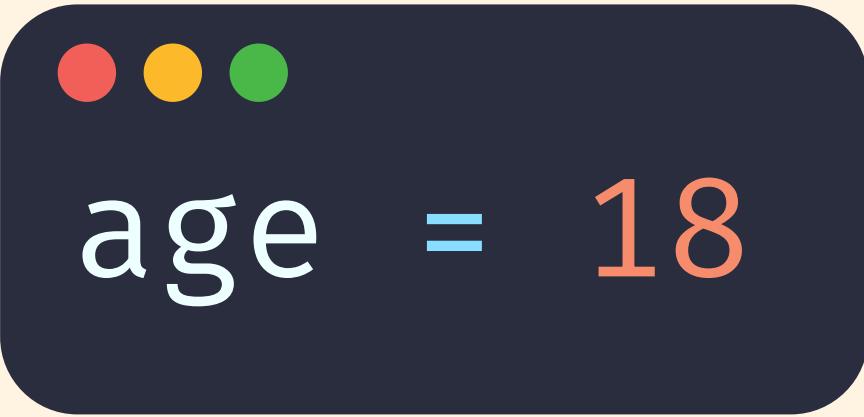
```
if age >= 21:  
    print("Come on in!")
```



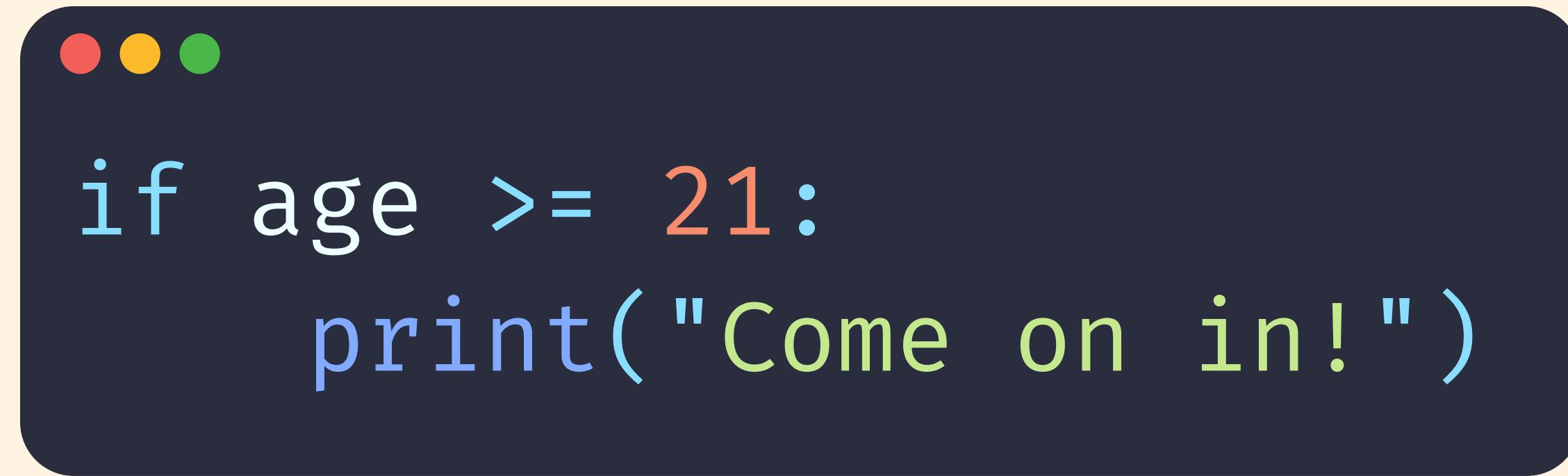
```
age = 18
```



```
if age >= 21:  
    print("Come on in!")
```

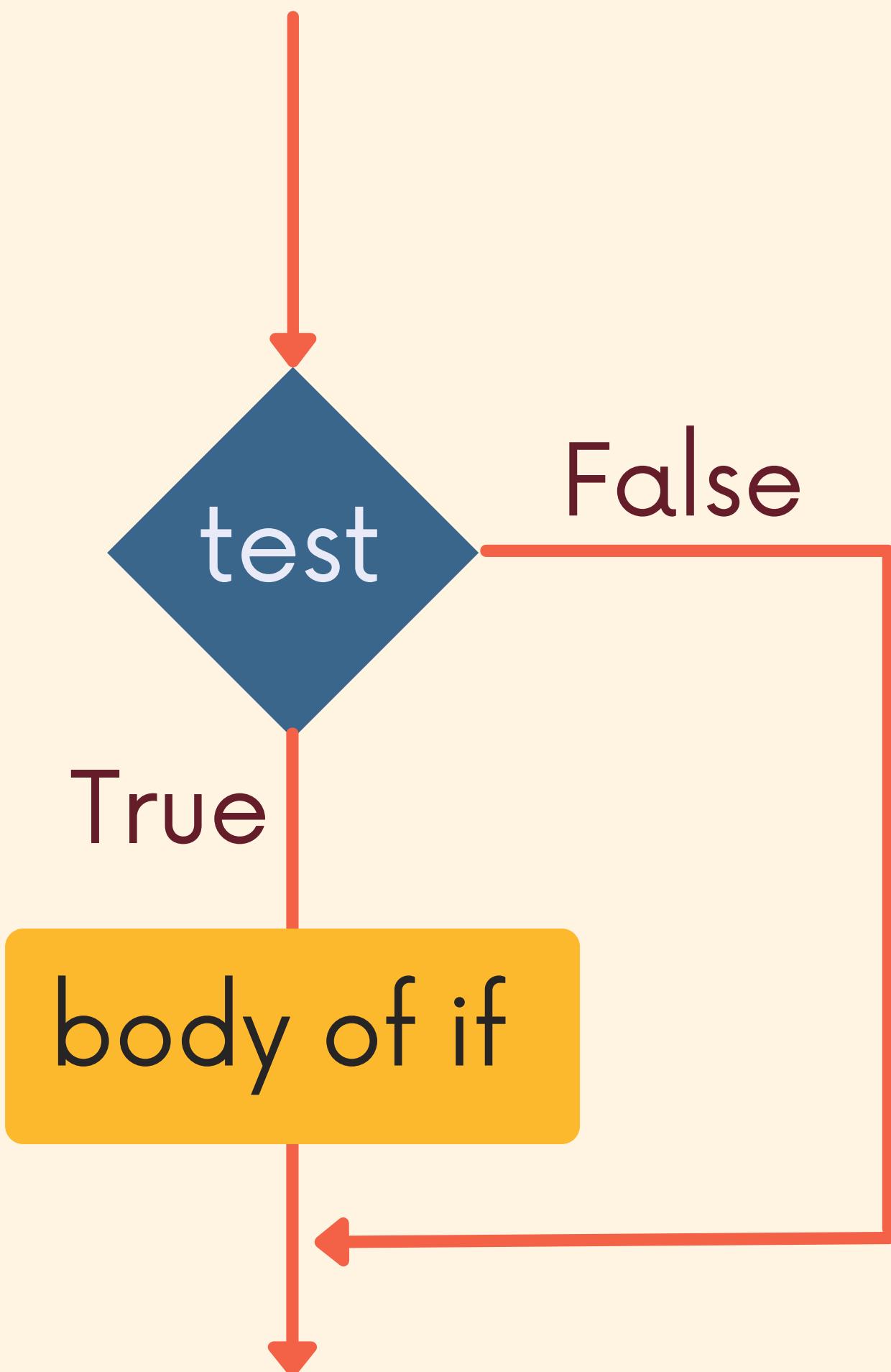


age = 18



```
if age >= 21:  
    print("Come on in!")
```

Nothing Printed



Else if

If not the first thing,
maybe try this instead?

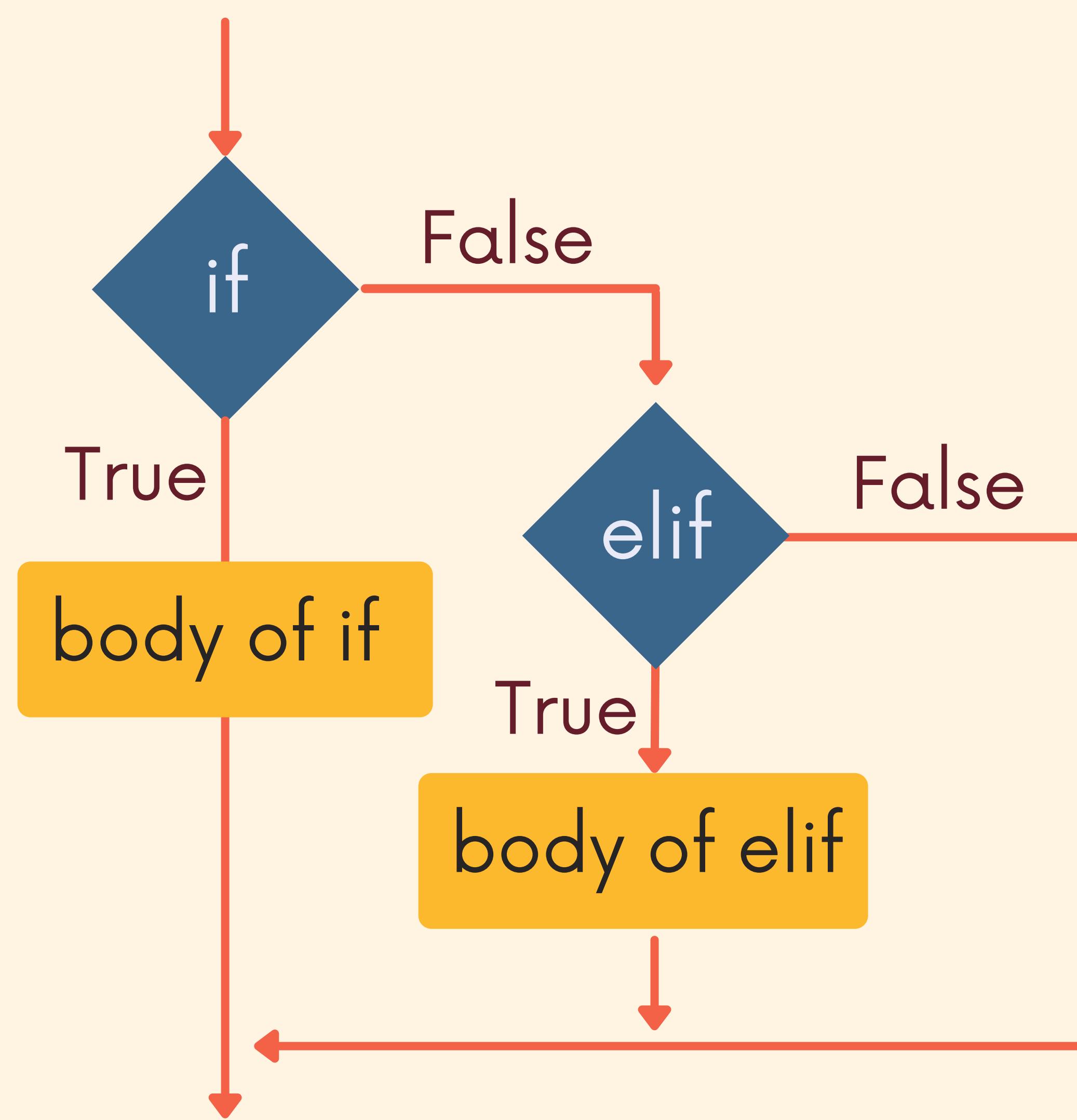
Else If

```
if test:
```

```
    code if True
```

```
elif test 2:
```

```
    code if True
```





```
if color == "green":  
    print("Beginner Ski Run")  
elif color == "blue":  
    print("Intermediate Ski Run")
```



```
color = "blue"
```



```
if color == "green":  
    print("Beginner Ski Run")  
elif color == "blue":  
    print("Intermediate Ski Run")
```

```
color = "blue"
```

```
if color == "green":  
    print("Beginner Ski Run")  
elif color == "blue":  
    print("Intermediate Ski Run")
```

"Intermediate Ski Run"



```
if color == "green":  
    print("Beginner Ski Run")  
elif color == "blue":  
    print("Intermediate Ski Run")
```



```
color = "green"
```



```
if color == "green":  
    print("Beginner Ski Run")  
elif color == "blue":  
    print("Intermediate Ski Run")
```

```
color = "green"
```

```
if color == "green":  
    print("Beginner Ski Run")  
elif color == "blue":  
    print("Intermediate Ski Run")
```

"Beginner Ski Run"



```
if color == "green":  
    print("Beginner Ski Run")  
elif color == "blue":  
    print("Intermediate Ski Run")  
elif color == "black":  
    print("Expert Ski Run")
```

```
color = "black"
```

```
if color == "green":  
    print("Beginner Ski Run")  
elif color == "blue":  
    print("Intermediate Ski Run")  
elif color == "black":  
    print("Expert Ski Run")
```

```
color = "black"
```

```
if color == "green":  
    print("Beginner Ski Run")  
elif color == "blue":  
    print("Intermediate Ski Run")  
elif color == "black":  
    print("Expert Ski Run")
```

"Expert Ski Run"

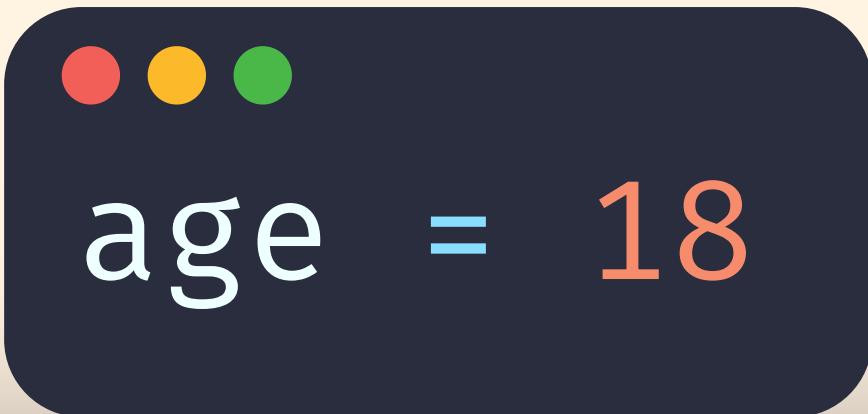
Else

If none of the above
were True, do this...

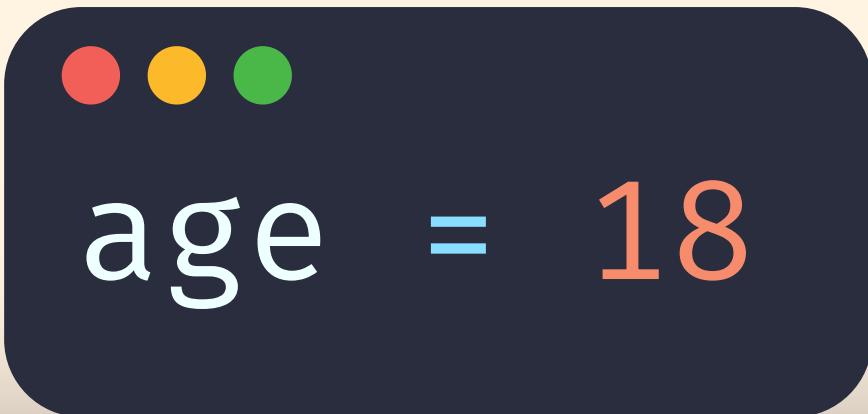
```
if age >= 21:  
    print("Come on in!")  
else:  
    print("Go home kid")
```



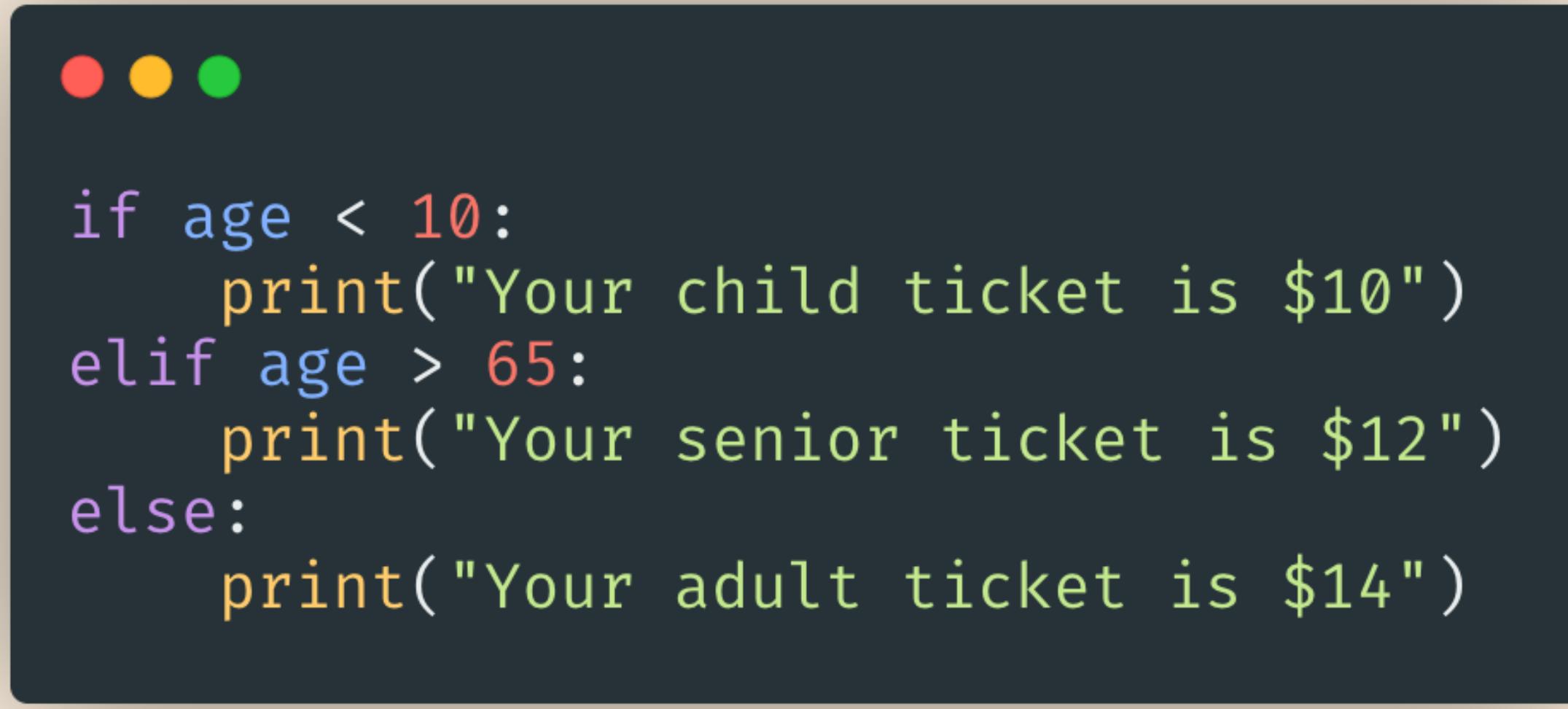
```
if age < 10:  
    print("Your child ticket is $10")  
elif age > 65:  
    print("Your senior ticket is $12")  
else:  
    print("Your adult ticket is $14")
```



```
if age < 10:  
    print("Your child ticket is $10")  
elif age > 65:  
    print("Your senior ticket is $12")  
else:  
    print("Your adult ticket is $14")
```

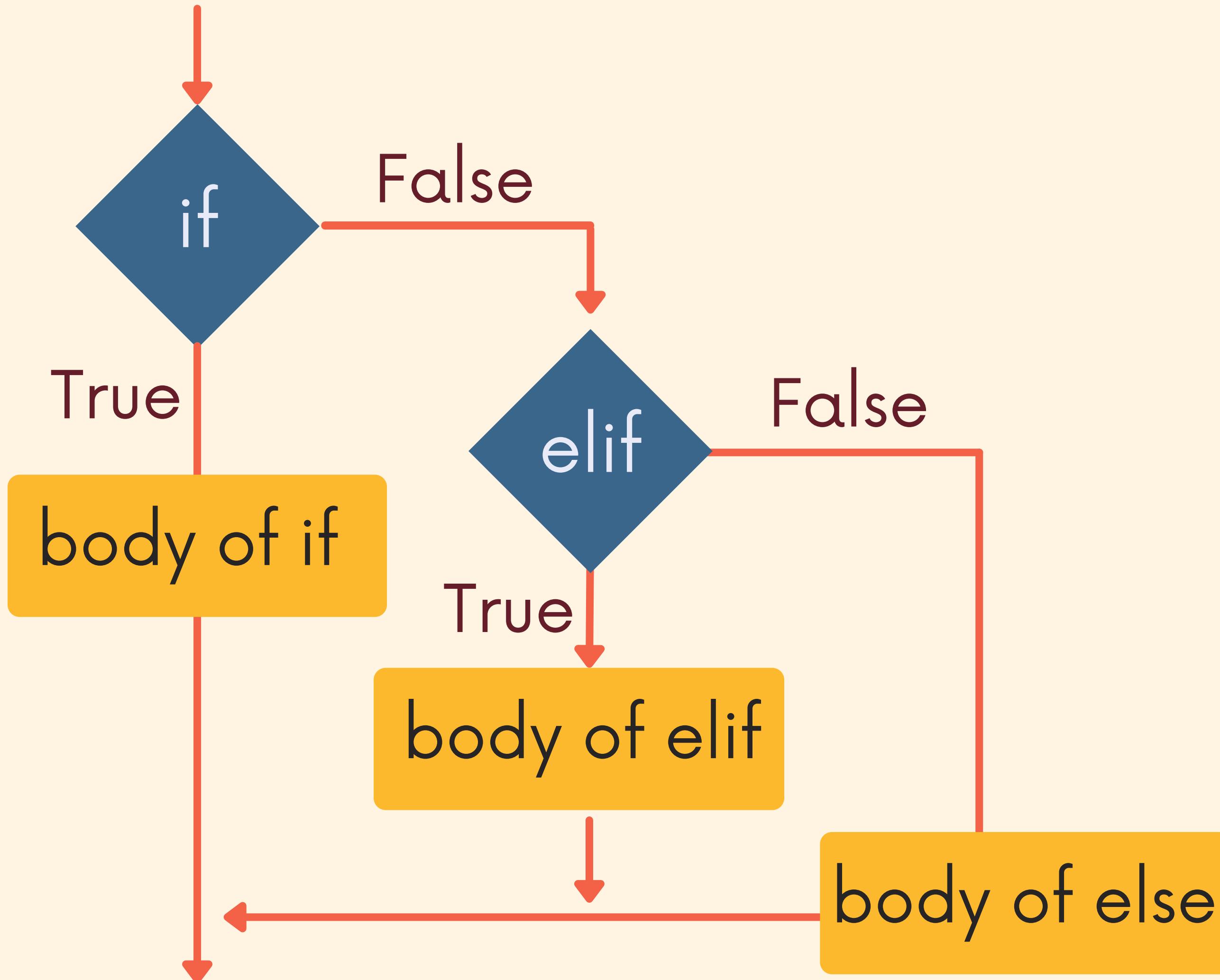


age = 18



```
if age < 10:  
    print("Your child ticket is $10")  
elif age > 65:  
    print("Your senior ticket is $12")  
else:  
    print("Your adult ticket is $14")
```

"Your adult ticket is \$14"



Nested Conditionals





```
if unit == 'fahrenheit':  
    if temp <= 32:  
        print("It's freezing out!")  
    else:  
        print("It's not freezing ")  
else:  
    print("I'm really bad with celsius!")
```

```
temp = 30  
unit = 'fahrenheit'
```

```
if unit == 'fahrenheit':  
    if temp <= 32:  
        print("It's freezing out!")  
    else:  
        print("It's not freezing ")  
    else:  
        print("I'm really bad with celsius!")
```

```
temp = 30  
unit = 'fahrenheit'
```

```
if unit == 'fahrenheit':  
    if temp <= 32:  
        print("It's freezing out!")  
    else:  
        print("It's not freezing ")  
else:  
    print("I'm really bad with celsius!")
```

It's freezing out!

```
temp = 39  
unit = 'fahrenheit'
```

```
if unit == 'fahrenheit':  
    if temp <= 32:  
        print("It's freezing out!")  
    else:  
        print("It's not freezing ")  
    else:  
        print("I'm really bad with celsius!")
```

It's not freezing



```
temp = 39  
unit = 'celsius'
```



```
if unit == 'fahrenheit':  
    if temp <= 32:  
        print("It's freezing out!")  
    else:  
        print("It's not freezing ")  
else:  
    print("I'm really bad with celsius!")
```

I'm really bad with celsius!

Generating Random Numbers



```
import random  
random.randint(1,6)
```

6

```
random.randint(1,6)
```

2