

Conditionals

making decisions

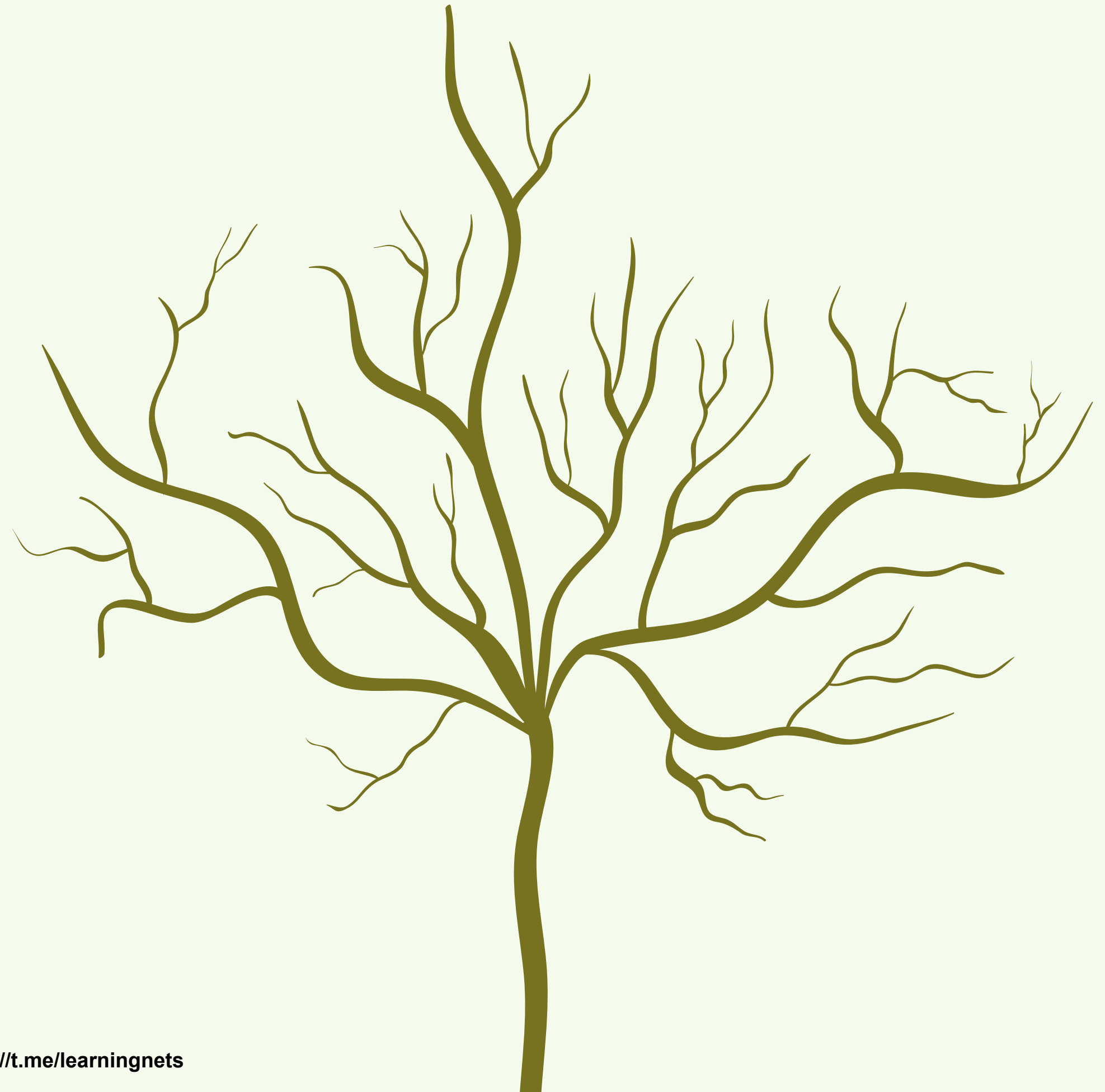
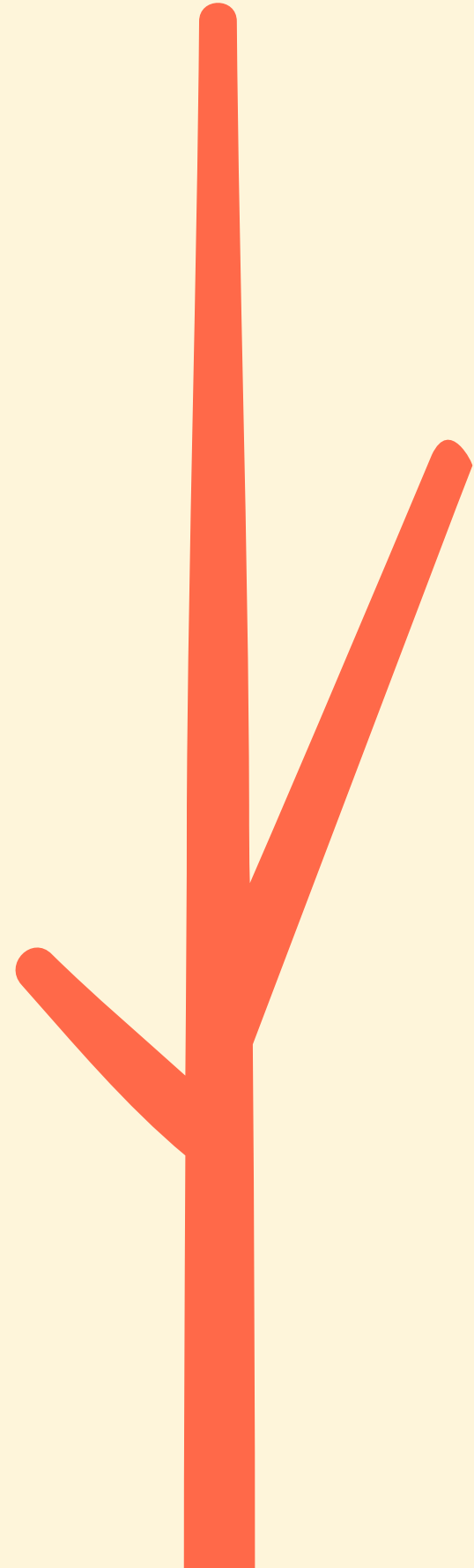




Conditionals

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









Decisions

Are You Over 21?


Yes

no

Come on in!

Go home kid.





```
age >= 21
```

Are You Over 21?

yes

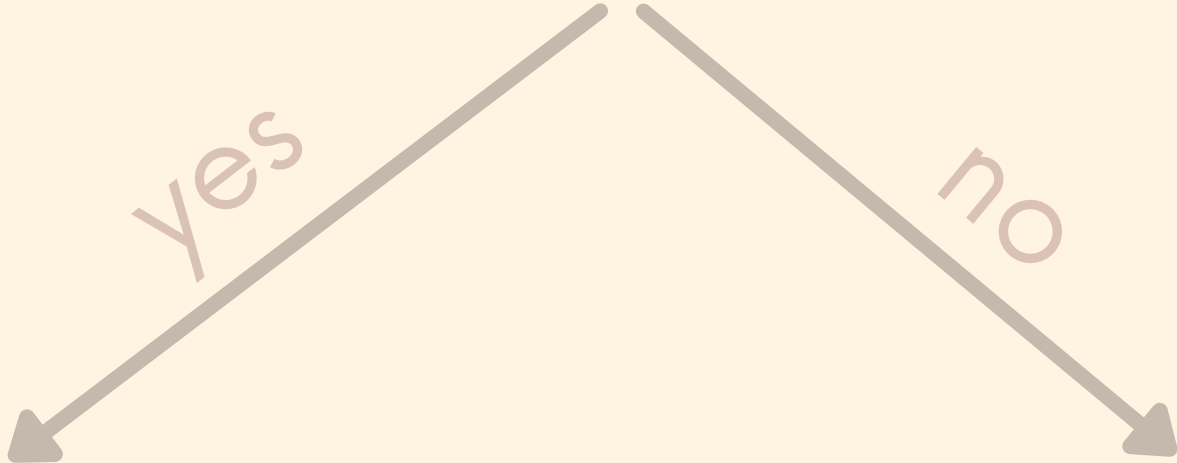
no

Come on in!

Go home kid.

```
age >= 21
```

Are You Over 21?

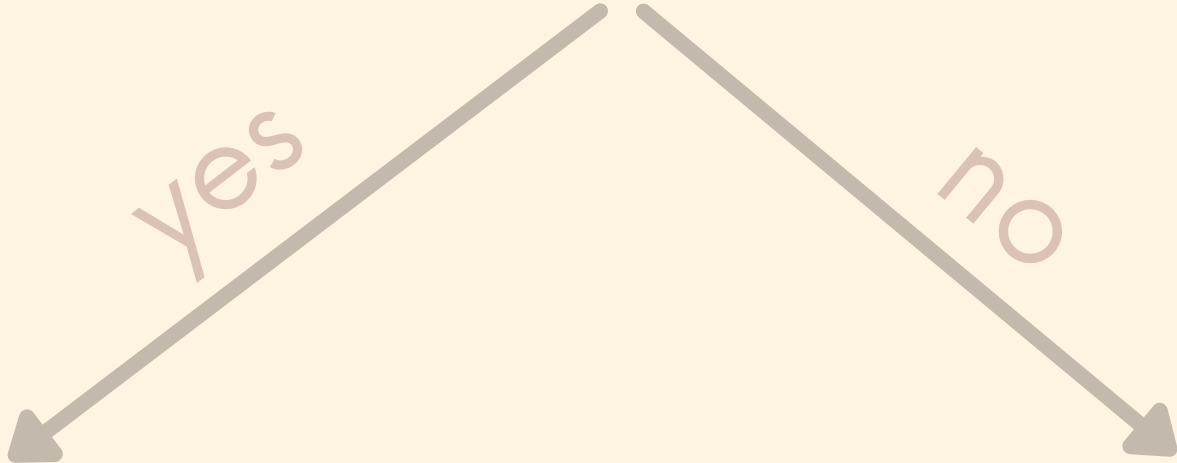


Come on in!

Go home kid.

```
age >= 21
```

Are You Over 21?



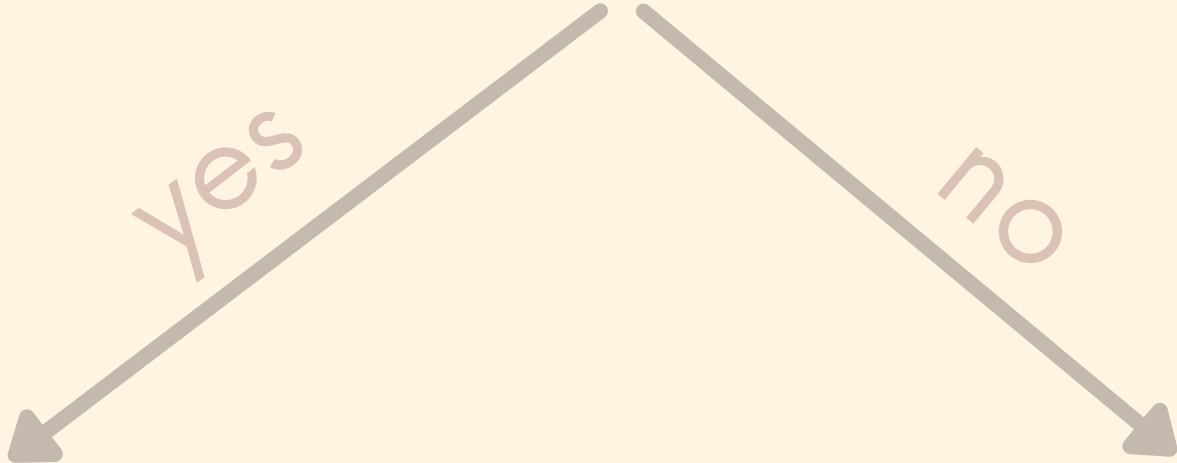
Come on in!

Go home kid.

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

```
age >= 21
```

Are You Over 21?



Come on in!

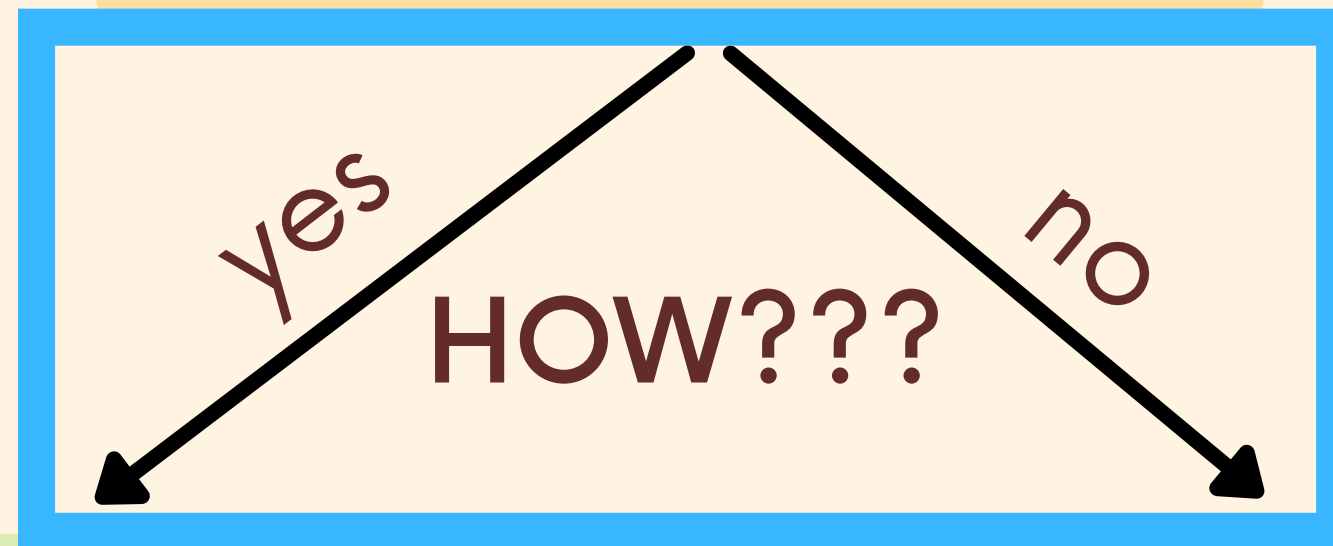
Go home kid.

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

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

```
age >= 21
```

Are You Over 21?



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:
```

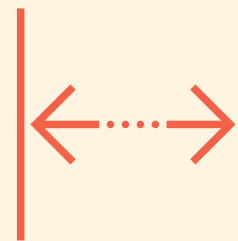




if Statement

```
if condition:
```

Indent - 4 Spaces



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

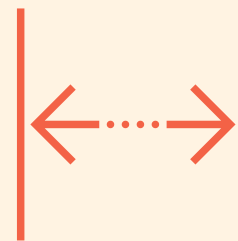




if Statement

```
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
```

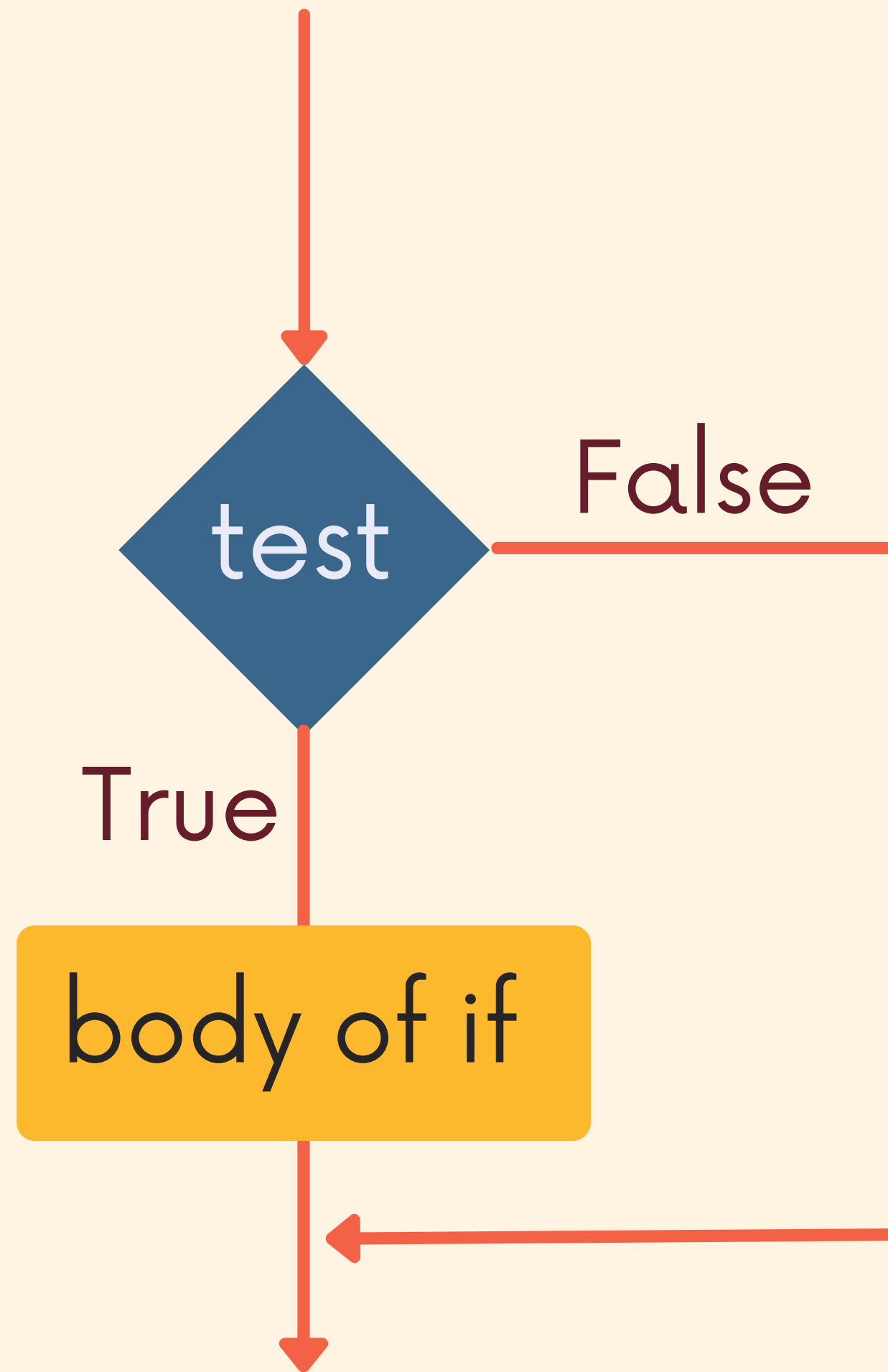


```
if age >= 21:  
    print("Come on in!")
```

```
age = 18
```

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

Nothing Printed



Else if

If not the first thing,
maybe try this instead?

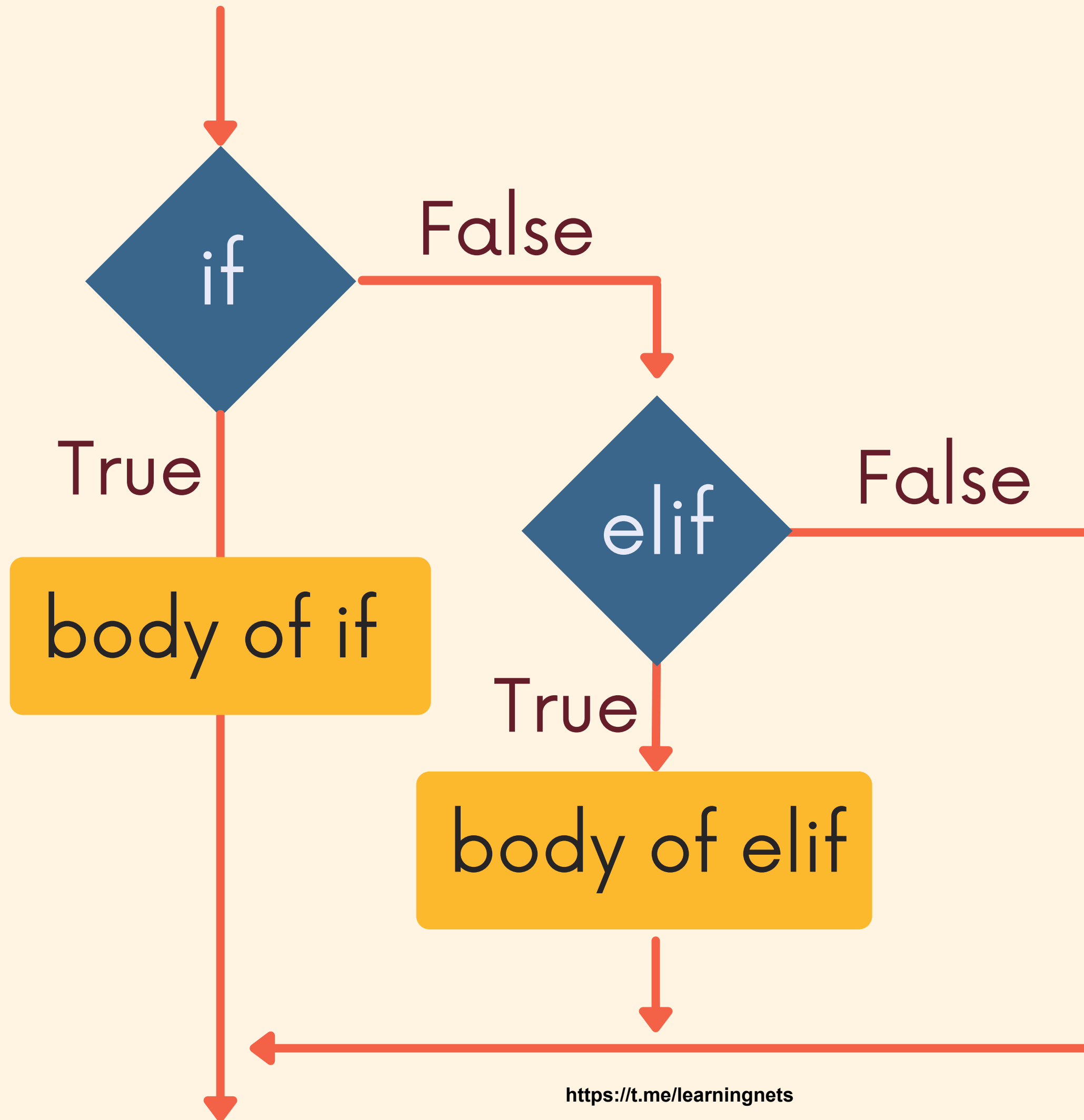
Else If

```
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")
```

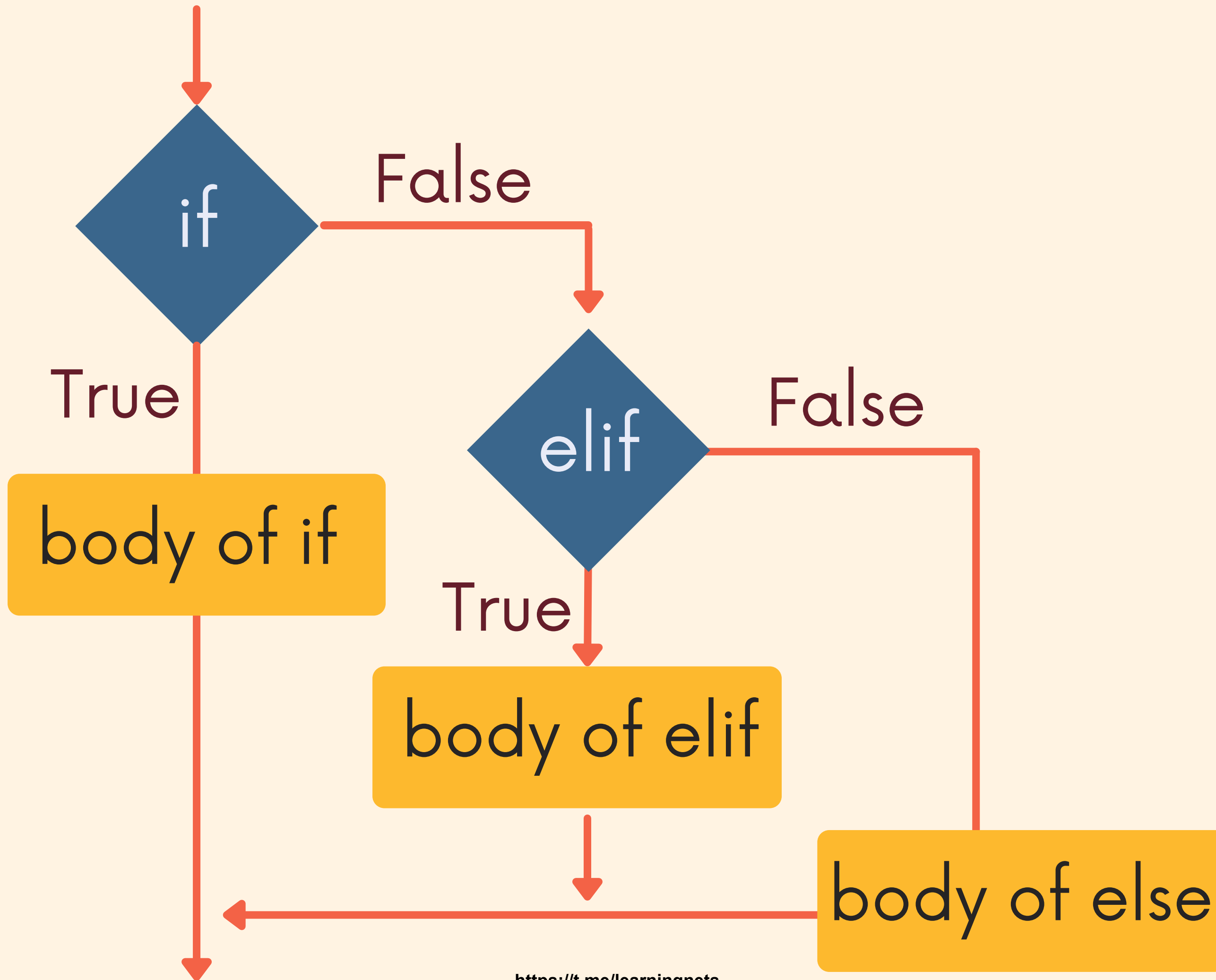
```
age = 18
```

```
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")
```

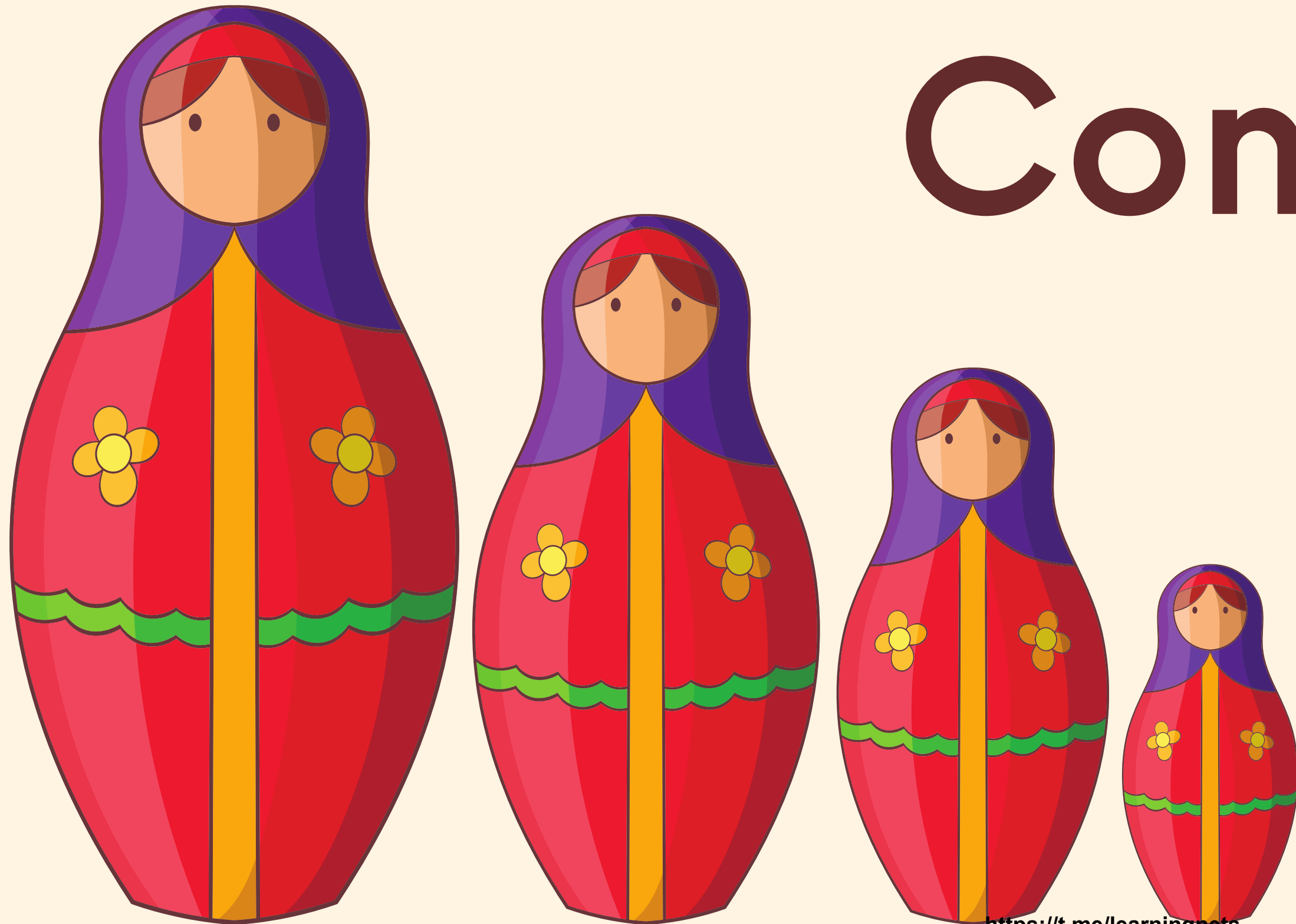
```
age = 18
```

```
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
```