Control Statements 1

Agenda

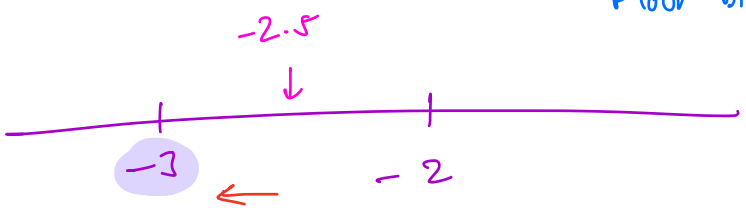
- Comparisons
- Assignment & Equality
- Logical Operators
- Basic Branching
- If else
- Practice problems

$a = -5$

$\frac{-5}{2} \Rightarrow -2.5$

$a // 2 \Rightarrow -3$

Floor division



Try reloading if you cannot hear me.

Onboarding form → Pinned Message

Comparison Operators

$>$, $<$, $>=$, $<=$, $==$, $!=$

$10 > 5$ → True

$8 < 3$ → False

$x = 5$

$x == 5$ → True

$x = 10$

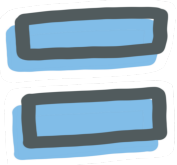
$x != 10$ ← $x \neq 10$ → False

$x == 10$ → True

Not equal $!=$

Opposite of equality

Assignment Operator



$x = 3$ ← Assign value 3 to variable x

$x = x + 5$

→ $x = 8$

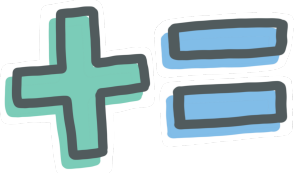
Assignment operator takes value from right hand side and assign it to the variable on left hand side

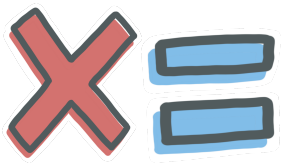
$x = 10$

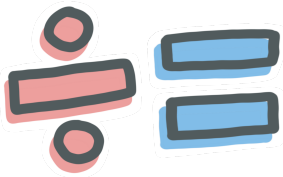
$x = x - 7$

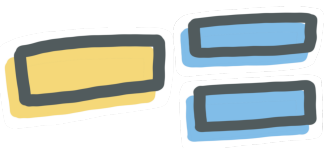
→ $x = 3$

Compound Assignment









```
x = 10

x = x - 8    ⇒   x -= 8

x = x + 5    ⇒   x += 5

x = x * 3    ⇒   x *= 3

x = x / 2    ⇒   x /= 2

x = x // 6   ⇒   x //= 6

x = x % 9    ⇒   x %= 9

x = x ** 4   ⇒   x **= 4
```

Logical Operators

and , or , not

Combine multiple logical conditions

---

x = 500

x == 500 or x == 1000 → final result

x == 500 → True

x == 1000 → false

final result → True

x = 200

x == 500 or x == 1000 → final result

x == 500 → F

x == 1000 → F

final result → false

expr1

expr2

expr 1	expr 2	Result
F	F	F
F	T	T
T	F	T
T	T	T

Quiz

$25 > 50$ or $1 != 2$

↓ ↓

F or T ⇒ True

AND

$10 > 5$ and $20 < 100$

↓ ↓

T T ⇒ True

$10 > 5$ and $20 < 6$

$10 > 5$ ↓ T

$20 < 6$ ↓ F

⇒ False

expr 1	expr 2	Result
F	F	F
F	T	F
T	F	F
T	T	T

Quiz

$3 > 1$ and $-1 < 1$

$3 > 1$ ↓ T

$-1 < 1$ ↓ T

⇒ True

Break till 10:17 PM

NOT → opposite boolean value

not True → False

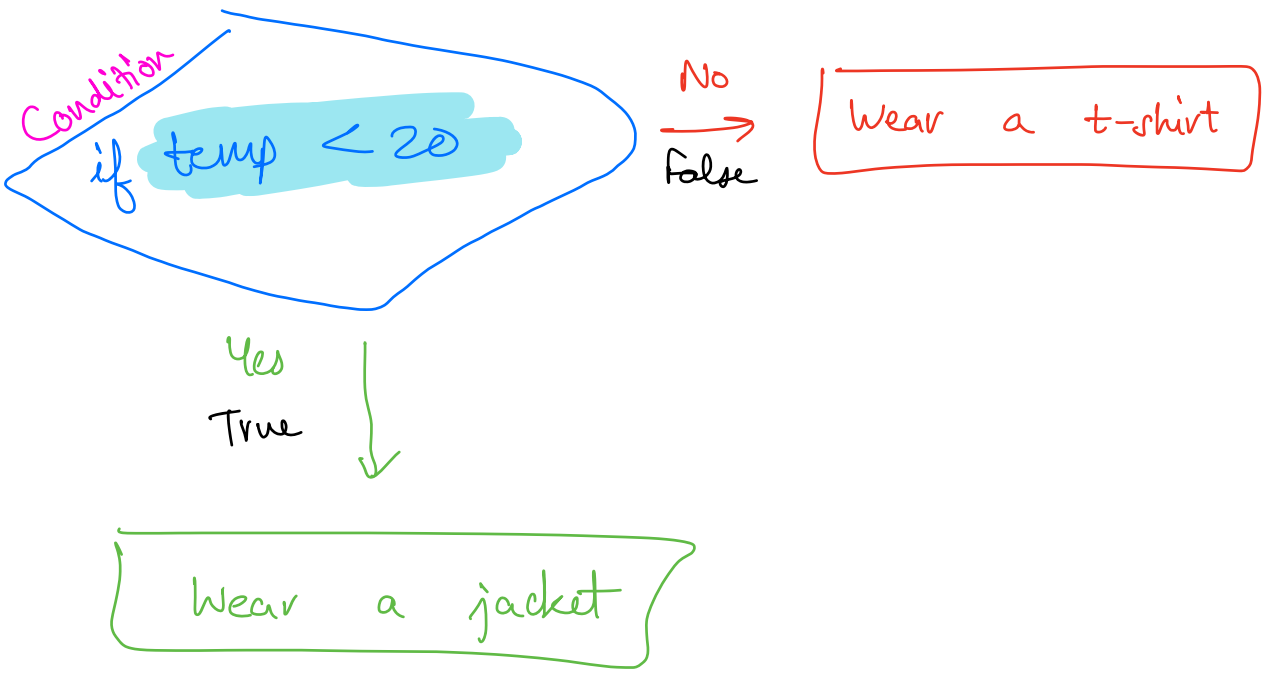
not False → True

True → Akash

False → Everyone else

Branching - if-else

Weather forecast



Syntax

```
if condition :
    <code>
else :
    <code>
```

Code execute when condition is True

When Condition is false

Weather example

```
temp = int (input())

if temp < 20 :
    print ("Wear a jacket")

else :
    print ("Wear a t-shirt")
```

```
temp = 10

if temp < 20:
    print("Wear a jacket")
    print("Wear a cap")
    print("Wear gloves too")
else:
    print("Wear a t-shirt")
    print("Wear shorts")
    print("Wear sunglasses")
```

Indents

Indents

Indentation

Indents are used to define code blocks in Python

↓

Group of code statements

temp = 10

→ Jacket

→ Cap

→ Gloves

→ Have a good day

```
temp = 50


if temp < 20:
    print("Wear a jacket")
    print("Wear a cap")
    print("Wear gloves too")
else:
    print("Wear a t-shirt")
    print("Wear shorts")
    print("Wear sunglasses")

print("Have a good day")
```

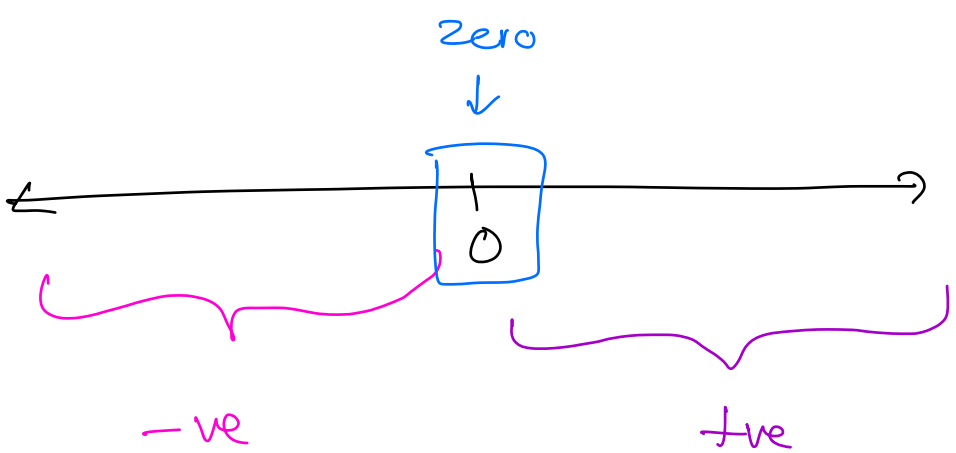
temp = 40

→ T-shirt

→ Shorts

→ Sunglasses

→ Have a good day



N > 0

Challenge:

Read 2 numbers - a & b, print max of them

a , b

if a > b :

larger = a

else :

larger = b

Doubts

Thank
You

Good
Night

Thank
You

Monday