Operators and Branching

Operators

Operator	Syntax	Action
Assignment	x = y	Store y in x.
Walrus	x := y	Store y in x and return y.
Addition	x + y	Returns the sum of x and y.
Subtraction	x - y	Returns difference of x and y.
Multiplication	x * y	Returns x times y.
Division with remainder	x / y	Returns x over y as float.
Division without remainder	x // y	Returns x over y as integer without remainder.
Exponential	x ** y	Returns x to the power of y.

Operators

Operator	Syntax	Action
Modulo	x % y	Returns the remainder of x over y.
Operation in-place	x □= y	Store the result of any operation □on x and y in x.
Smaller than	x < y	Returns True if x is smaller than y.
Bigger than	x > y	Returns True if x is bigger than y.
Smaller or equal	x <= y	Returns True if x is smaller or equal y.
Bigger or equal	x >= y	Returns True if x is bigger or equal y.
Equality	x == y	Returns True if x is equal y.
Unequality	x != y	Returns True if x is unequal y.

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Operators

```
>>> x = 5
>>> y = 3
>>> x + y
8
>>> x
5
>>> x = x + y
>>> x
8
>>> x += y
>>> x
11
>>>
```

```
>>>
>>> x
11
>>> y
3
>>> x % y
2
>>> x // y
3
>>>
```

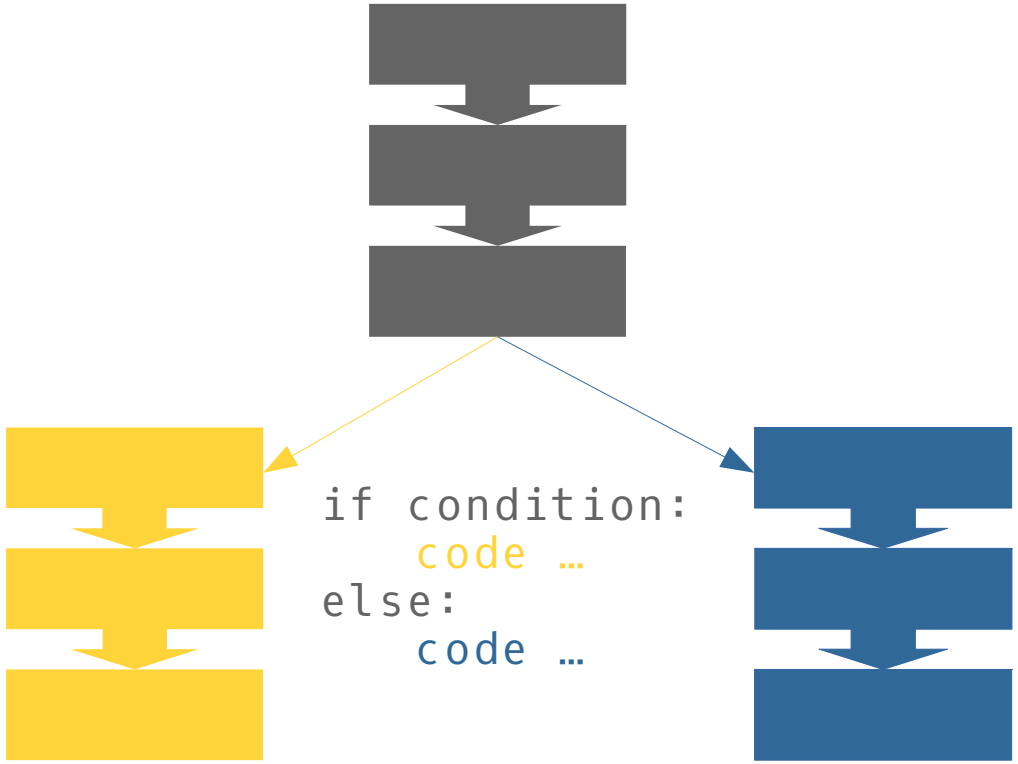
```
>>>
>>> z
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
NameError: name 'z' is not defined
>>> if(z := 1 == 1):
...     print("z equals 1.")
...
z equals 1.
>>> z
True
>>> if(z := 1 != 1):
...     print("z unequals 1.")
...
>>> z
False
>>>
```

```
>>>
>>> 5 < 3
False
>>> 5 == 5
True
>>> 5 > 3
True
>>> 5 > 5
False
>>> 5 >= 5
True
>>>
```

Math

```
>>>
>>> x = 4
>>> 5 + 3 ** 2
14
>>> 3 / x + 7 ** x
2401.75
>>> 3 / (x + 7) ** 2
0.024793388429752067
>>>
```

Branching



if statements

```
if first_condition:
    code

elif second_condition:
    alternative
…

else:
    final_alternative
```

```
>>>
>>> x = 5
>>> if x < 5:
...     print("x smaller than 5.")
... elif x == 5:
...     print("x is 5.")
... else:
...     print("x is bigger than 5.")
...
x is 5.
>>>
```

```
first_condotion and second_comdition
first_condition or  second_condition
not condition
```

Exercise 3: Inconvenient Calculator

Programm a calculater that takes in user input.

Determine with if-clauses which operation the user wants to perform.

Print the result to the screen.

Don’t implement to much operations. We have more stuff planned today.