



Operations in Python. User input. Handling errors. First look at while loop.

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Arithmetic operators



Addition +

Subtraction -

Multiplication *

Division /

Floor division // 17 // 5 (returns 3, removes decimal)

Modulus: % 17 % 5 (returns 2, remainder)

Exponent: ** 2 ** 3 (returns 8, 2 to the power of 3)

Comparison operators



Operator	General Form	Returns True	Returns False
==	a == b	4 == 2 * 2	4 == 3
!=	a != b	4 != 3	4!=2*2
>	a > b	4 > 3	3 > 4
<	a < b	3 < 4	4 < 3
>=	a >= b	4 >= 4	4 >= 5
<=	a <= b	4 <= 4	4 <= 3

Logical operators



x and y

and True if both arguments are true

or True if either of the arguments is true x or y

not True if the argument is false not x

Examples (=> Python output)

False and True => False 1 < 2 and 1 == 1 => True

False or True => True 1 < 2 and 1 == 2 => False

not True => False 1 < 2 or 2 < 1 => True

not False => True 1 > 2 or 2 < 1 => False

not 2 > 1 => False

not 1 > 2 => True

print() and f-strings



```
# f-strings were first implemented in Python 3.6 name, age = "Sonya", 12
```

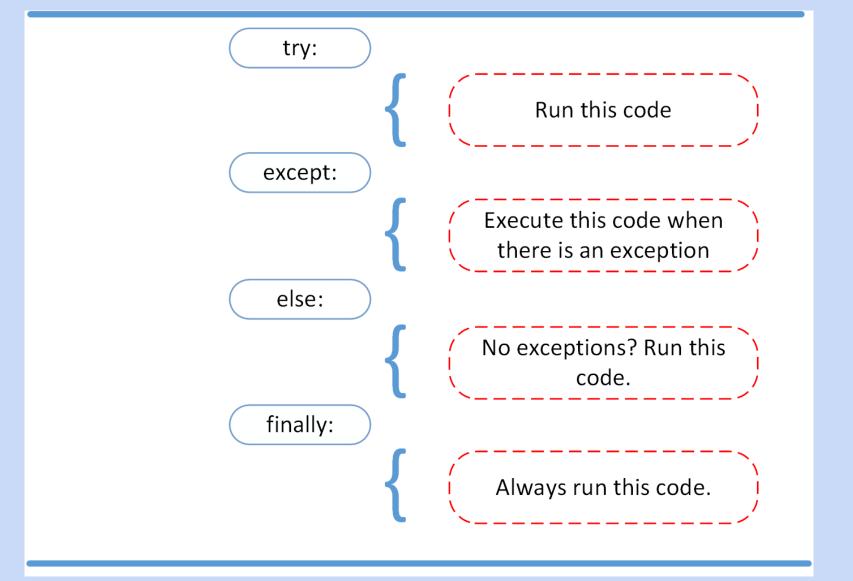
print(f"Meet {name}. \nShe is {age} years old.")

Getting information from user



```
name = input("What's your name? ")
age = input("What is your age? ")
```

Notice that age is a string! You can convert it to an integer data type: age = int(input("What is your age? ")) print(f"A person half your age would be {age/2} years old")





Detecting errors



```
# This code identifies if the input was incorrect (not an integer)
age = input("What is your age? ")
try:
  age = int(age)
except:
  print("Incorrect input")
else:
  print(f"A person half your age would be {age/2} years old")
finally:
  print("Have a good day!")
```

Handling errors



This code asks the user for an input until an integer is entered

```
while True:
  age = input("What is your age? ")
  try:
    age = int(age)
  except:
    print("Incorrect input")
    continue
  else:
    break
```

print(f"A person half your age would be {age/2} years old")

Alternative code



```
# This code asks the user for an input until an integer is entered
age = 0
while age == 0:
  age = input("What is your age? ")
  try:
    age = int(age)
  except:
    print("Incorrect input")
    age = 0
print(f"A person half your age would be {age/2} years old")
```