

```
def sum(a, b, c):
```

```
    return a+b+c
```

a=3

b=4

c=18

```
sum(3, 4, 18)
```

←

```
def sum_args(*args):
```

```
    sum = 0
```

```
    for i in args:
```

```
        sum += i
```

```
    return sum
```

↓ ↓ ↓ ↓ ↓
args = [3, 4, 18, 50, 13, -1]

```
sum_args(3, 4, 18, 50, 13, -1)
```

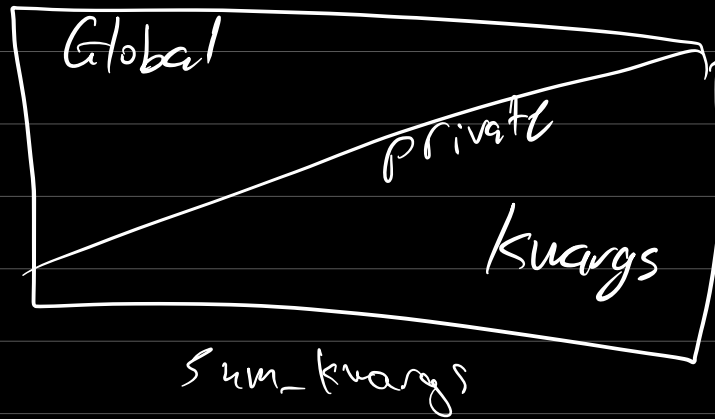
```
sum_args(3, 4, 4)
```

```
def sum_kwargs(**kwargs) ←
```

```
    return kwargs['a'] + kwargs['b'] + kwargs['c']
```

```
sum_kwargs(x=3, y=8, a=40, h=0, b=38) ←
```

$k_{\text{warg}} = \{ 'x': 13, 'y': 8, 'a': 40, 'h': 0, 'b': 38 \}$



oop

dog

data

age name

kind color

functionality

price

bark

eat

drink

sleep

pee

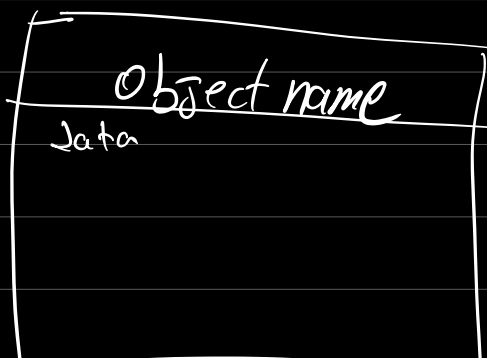
car

Data

{
king
make
year
color
number_of_wheels
hp
cc

func

{
forward
Reverse
brake
turn on
turn off
horn
open SunRoof



UML

Dog

↓
Data
name : str
age : int



kind : str

func :

bark()

Run()



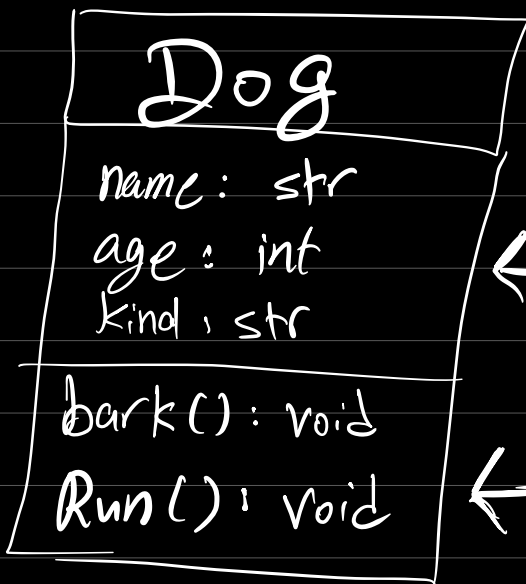
data

variables

func

functions

blue print



object Name



Data



functionality



str x = "a!"

→ d1 = Dog()

x.upper() ← method

d2 = Dog()

len('a') → func

d1.bark() → method

file1.py

```
def sum(x,y):  
    return x+y
```

function

sum(3,4)

```
class math:  
    def sum(x,y):  
        return x+y
```

```
n = math()  
n.sum(3,4)
```

← method

len('str') → length of string

'str'.lower \rightarrow change the current object
and return a lower
case str

$x = [3, 4, 8]$

$x.append(11)$

