Love is love. Quirks and Easter Eggs of the Python programming language.

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One of the most popular and universal programming languages.

Hides many secrets and non-intuitive situations.

Intuition, however, sometimes rightly fails us (as in mathematics).

Introductory information

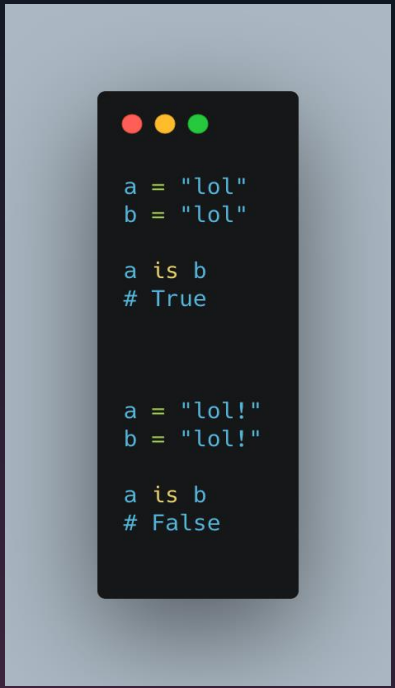
Strings are not always obvious (ex. 1 & 2).

```
a = "lol"
b = "lol"

a is b
# True



a = "lol!"
b = "lol!"

a is b
# False
```

```
'a' * 20 is 'aaaaaaaaaaaaaaaaaaaa'
# True

'a' * 21 is 'aaaaaaaaaaaaaaaaaaaaa'
# False
```

Strings are not always obvious. Explanation.

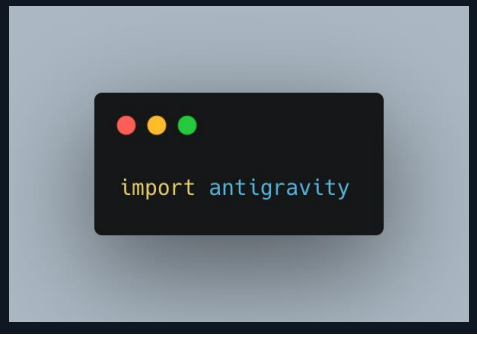
Ex. 1:
CPython optimization (called string interning).

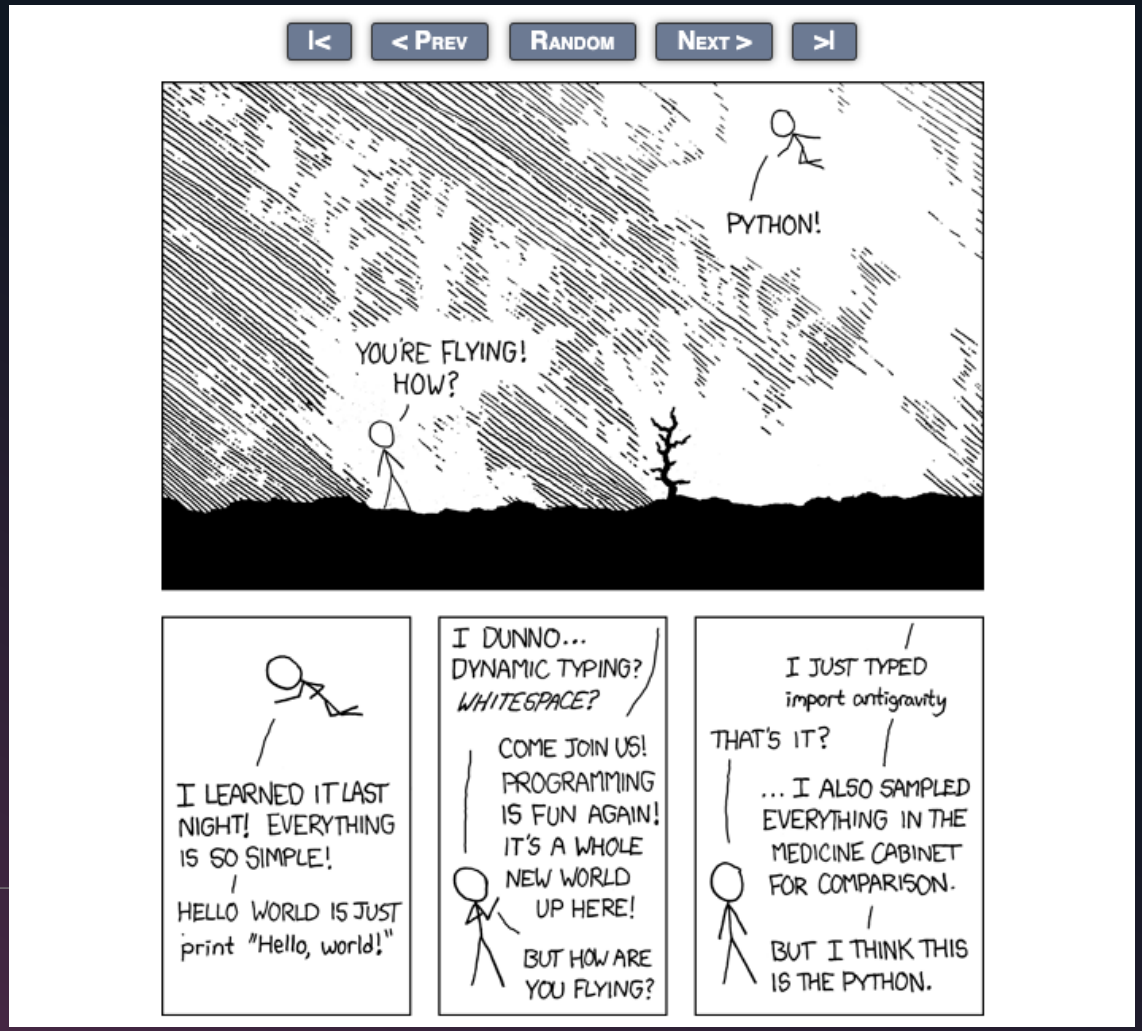


```
a = "lol"
b = "lol"

a is b
# True


a = "lol!"
b = "lol!"

a is b
# False
```

Ex. 2:
Peephole optimization technique known as Constant folding.

```
'a' * 20 is 'aaaaaaaaaaaaaaaaaaaa'
# True

'a' * 21 is 'aaaaaaaaaaaaaaaaaaaaa'
# False
```





I believe I can fly.

- import antigravity opens up a web browser pointing to the comic about Python
- python developers easter egg
- popular functionality

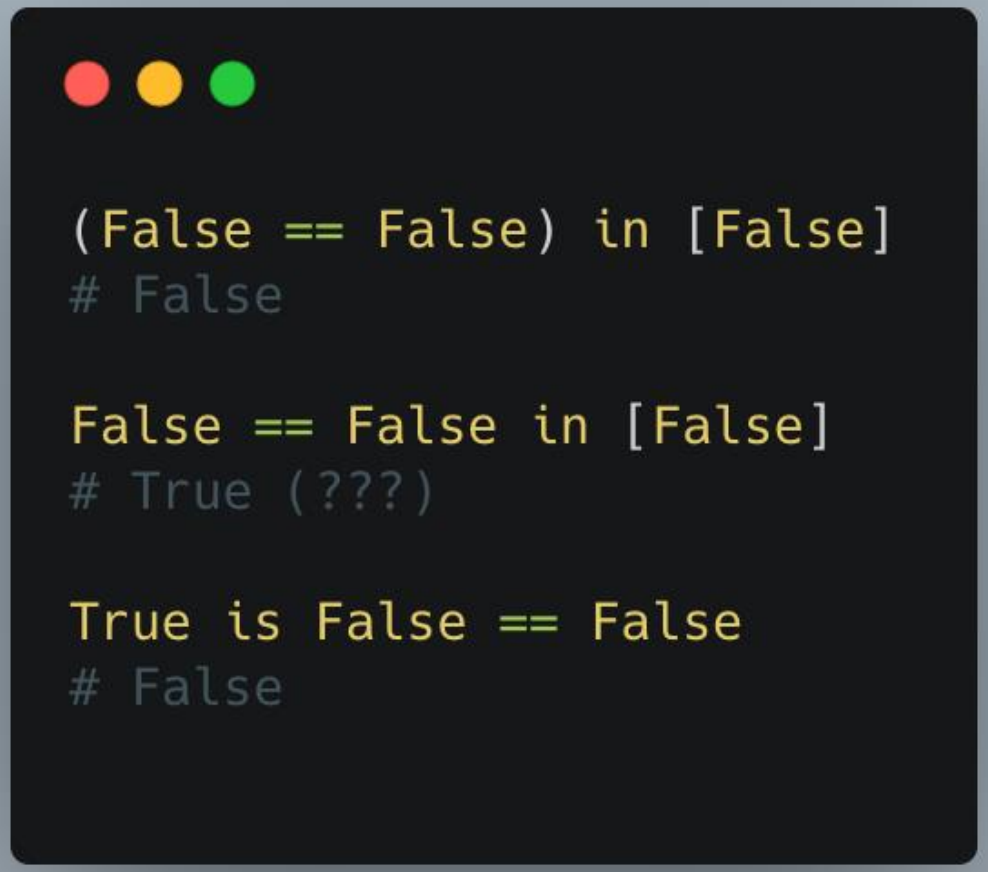
"goto" is our enemy.

"goto" is bad programming practice for all languages. It is so banned in Python that it cannot be used at this time.

```
from goto import goto, label
for i in range(100):
        if i == 25:
          goto .breakout
          print("The value of i is less than 25.")

label .breakout
print("I am here!")
```

Logical operators are puzzling.

If (True) in [False] is false, why are the other cases different?



Beware of default mutable arguments.

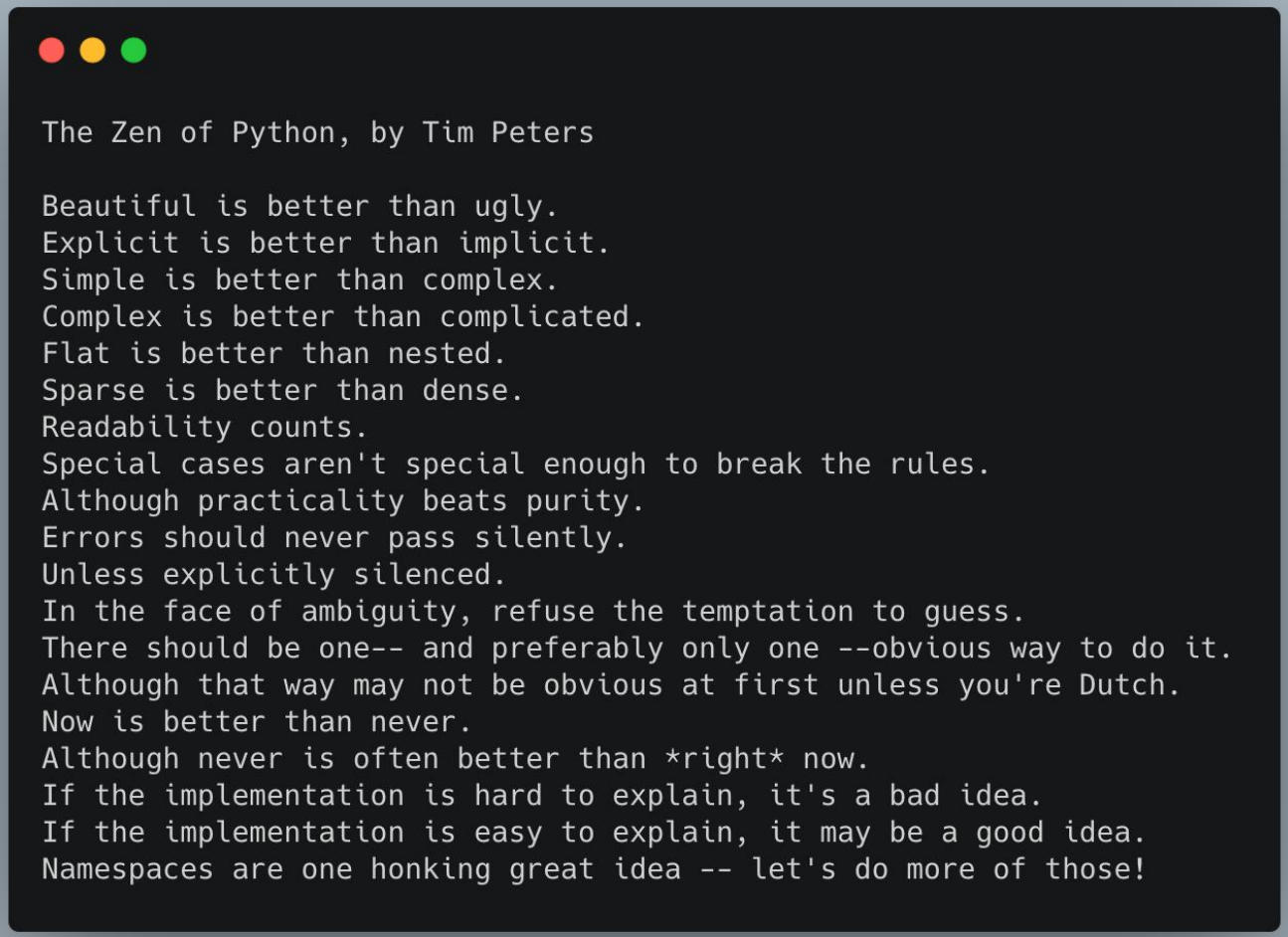
The first two times num_list() is invoked, a 1 will be appended to nums list both times. The result is [1, 1]. To reset the list, you have to pass in an **empty list** to the next invocation.

```
def num_list(nums=[]):
    num = 1
    nums.append(num)
    return nums

print(num_list()) # [1]
print(num_list()) # [1, 1]
print(num_list([])) # [1]
print(num_list()) # [1, 1, 1]
print(num_list([4])) # [4, 1]
```

It's the Zen of Python!

After typing "insert this" we will get this "text".

The Zen of Python is a collection of 19 "guiding principles" for writing computer programs that influence the design of the Python.



Python knows what love is.

```
import this

love = this
this is love

print(love is True) # False
print(love is False) # False
print(love is not(True or False)) # True

print(love is love) # True
```

Thank you for your attention.