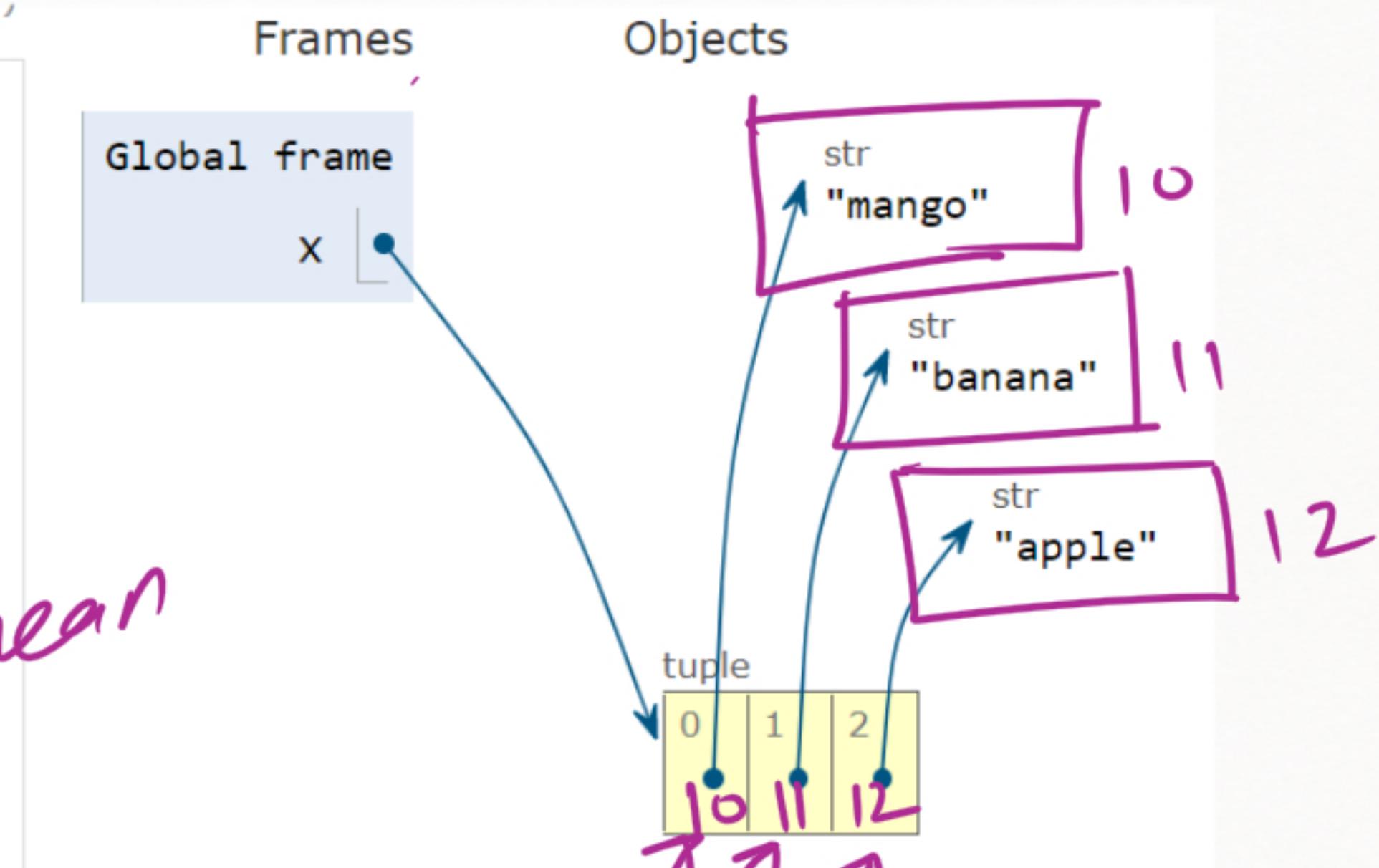


Immutability in tuples

```
x = ('mango', 'banana', 'apple')  
print(id(x[0]))  
print(id(x[1]))  
print(id(x[2]))
```

6793792 → 10 ✓
3809792 → 11 ✓
3809824 → 12 ✓

When I say tuples and
immutable, I basically mean
we can not change

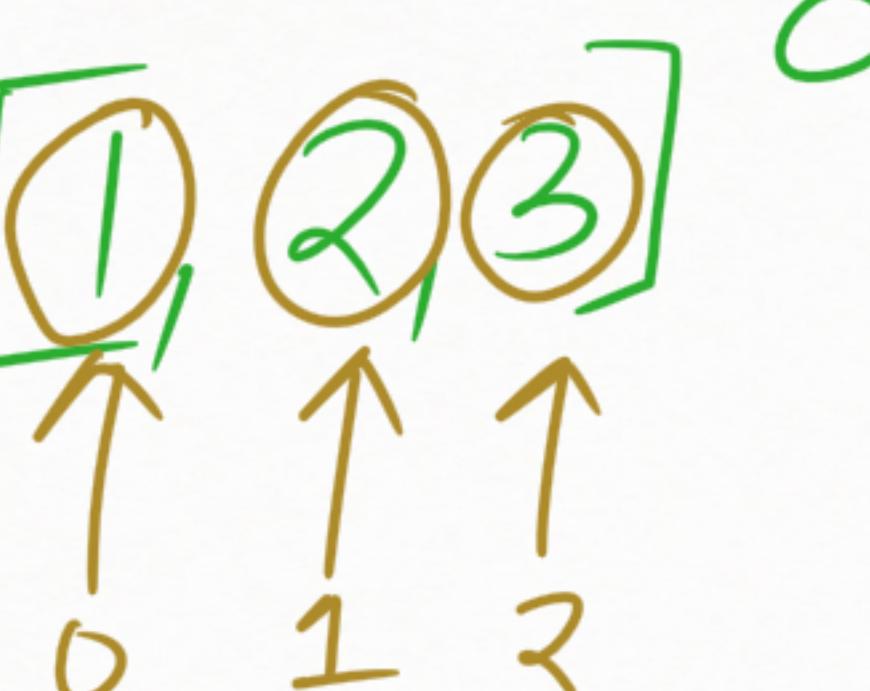


How to access list of list

$x = ([1, 2, 3], "mango")$

$\text{len}(x) \Rightarrow 2$

$x[0] \Rightarrow [1, 2, 3]$



$x[0][0] \parallel 1$
 $x[0][1] \parallel 2$

$x[0][2] \parallel 3$

$x[1] \parallel "mango"$



$x[1][3] \parallel g$

```
x = ([1,2,3], 'banana', 'apple')
```

```
print(id(x[0]))  
print(id(x[1]))  
print(id(x[2]))
```

82260072 → 10
3809792 → 11
3809824 → 12

x[0][1] = 20 ✓

```
print(x)
```

```
([1, 20, 3], 'banana', 'apple')
```

```
print(id(x[0]))  
print(id(x[1]))  
print(id(x[2]))
```

82260072 → 10
3809792 → 11
3809824 → 12

1st Picture

Frames

Global frame

x

Objects

```
x = ([1,2,3], 'banana', 'apple')
```

```
print(id(x[0]))  
print(id(x[1]))  
print(id(x[2]))
```

82260072 → 10 ✓
3809792 → 11 ✓
3809824 → 12 ✓

```
x[0][1] = 20  
print(x)
```

```
([1, 20, 3], 'banana', 'apple')
```

```
print(id(x[0]))  
print(id(x[1]))  
print(id(x[2]))
```

82260072 → 10 ✓
3809792 → 11 ✓
3809824 → 12 ✓

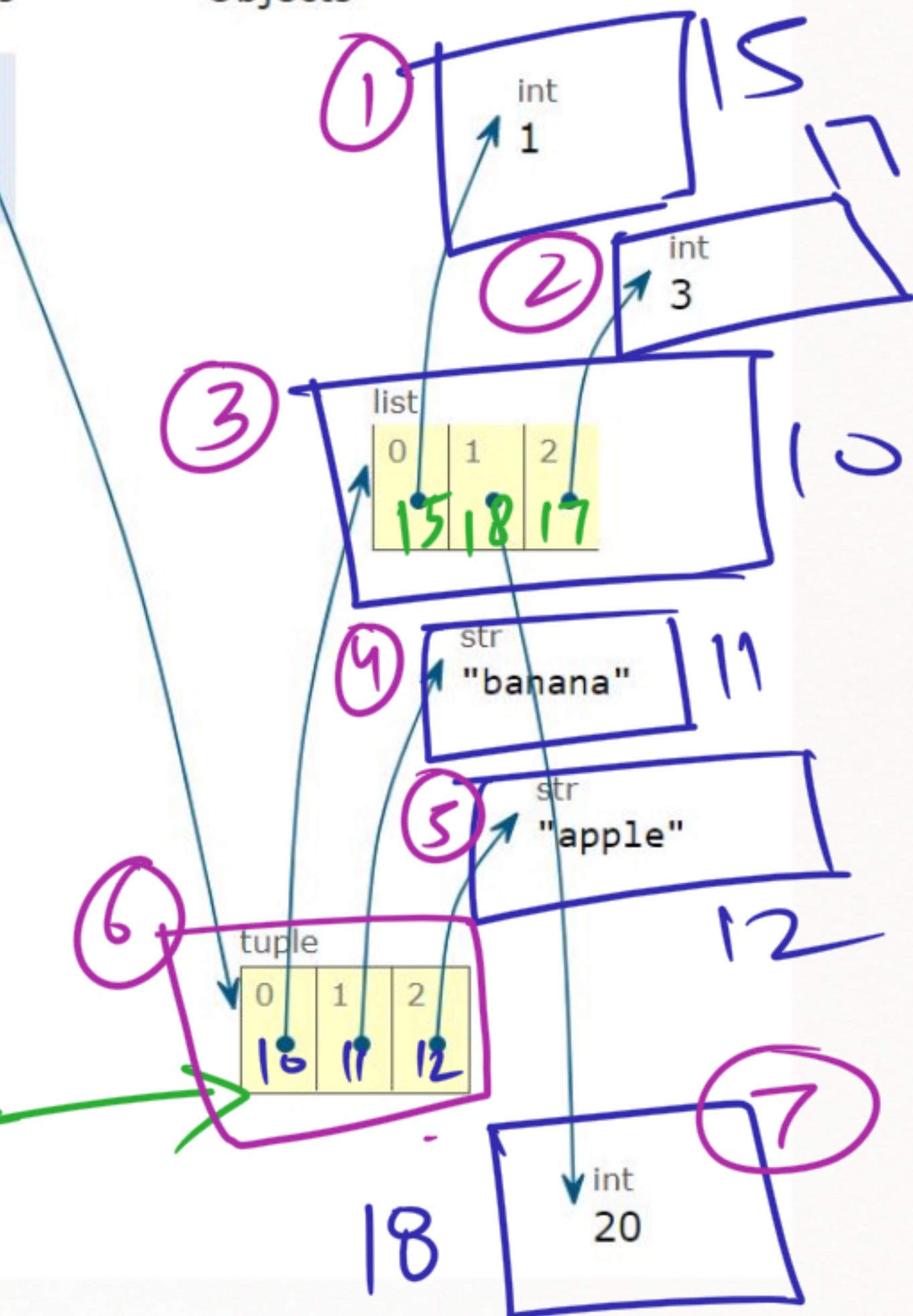
Immutability means we
can not change these
values

Frames

Global frame

x

Objects



Logical Operators

> AND

A	B	A and B
True	True	True
True	False	False
False	True	False
False	False	False

$$\begin{aligned}1 * 1 &= 1 \\1 * 0 &= 0 \\0 * 1 &= 0 \\0 * 0 &= 0\end{aligned}$$

if both values
are true, only
then and oper-
ation of them will
be true.

2) OR

A	B	A or B
T	F	T
F	T	T
F	F	F
T	T	T

If both values are
False, than only the
OR operation of them
will be False.

3) NOT

A	not A
True	False
False	True

Reverts
the logic.
