

gnment-works

February 21, 2020

1 Python

```
In [2]: x = [1, 2, 3]
        y = x
        x[1] = 100
        print (y)
```

[1, 100, 3]

xyPython

1.1

Python

```
x = 500
y = x
y = 'foo'
```

- x = 500

Python PyInt pos1 500 Python x

pos1 : PyInt(500) () x : pos1

- y = x

Python y y x

pos1 : PyInt(500) () x : pos1 y : pos1

- `y = 'foo'`

Python `PyStr pos2 foo y`

```
pos1 : PyInt(500) () pos2 : PyStr('foo') ()  x : pos1y : pos2
```

`id`

`id(x)`

`x`

```
In [3]: x = 500
        id(x)
```

```
Out[3]: 140631055650896
```

```
In [4]: y = x
        id(y)
```

```
Out[4]: 140631055650896
```

`is`

```
In [5]: x is y
```

```
Out[5]: True
```

`y`

```
In [6]: y = 'foo'
        id(y)
```

```
Out[6]: 140631122863864
```

```
In [7]: x is y
```

```
Out[7]: False
```

Python

```
In [8]: x = 500
        id(x)
```

```
Out[8]: 140631055651568
```

```
In [9]: y = 500
        id(y)
```

```
Out[9]: 140631055651472
```

```
In [10]: x is y
```

```
Out[10]: False
```

intPython

```
In [11]: x = 2  
         id(x)
```

```
Out[11]: 94602838763968
```

```
In [12]: y = 2  
         id(y)
```

```
Out[12]: 94602838763968
```

```
In [13]: x is y
```

```
Out[13]: True
```

1.2

```
x = [500, 501, 502]  
y = x  
y[1] = 600  
y = [700, 800]
```

- x = [500, 501, 502]

Python3PyInt pos1 pos2 pos3 pos4 33 x

```
pos1 : PyInt(500) () pos2 : PyInt(501) ()  x : pos4  
pos3 : PyInt(502) () pos4 : PyList(pos1,  
pos2, pos3) ()
```

- y = x

y pos4

```
pos1 : PyInt(500) () pos2 : PyInt(501) ()  x : pos4y : pos4  
pos3 : PyInt(502) () pos4 : PyList(pos1,  
pos2, pos3) ()
```

- `y[1] = 600`

```
y[1] pos2 pos2 600 pos5
y[1] pos5 pos2 Python
```

```
pos1 : PyInt(500) () pos2 : pos3 :      x : pos4 y : pos4
PyInt(502) () pos4 : PyList(pos1, pos5,
pos3) () pos5 : PyInt(600) ()
```

- `y = [700, 800]`

```
y
```

```
pos1 : PyInt(500) () pos3 : PyInt(502) ()  x : pos4 y : pos8
pos4 : PyList(pos1, pos5, pos3) () pos5
: PyInt(600) () pos6 : PyInt(700) () pos7
: PyInt(800) () pos8 : PyList(pos6,
pos7) ()
```

```
In [17]: x = [500, 501, 502]
         print (id(x[0]))
         print (id(x[1]))
         print (id(x[2]))
         print (id(x))
```

```
140631055651920
140631055652080
140631055651856
140631056020552
```

```
id(y) id(x)
```

```
In [18]: y = x
         print (id(y))
```

```
140631056020552
```

```
In [19]: x is y
```

```
Out[19]: True
```

```
y[1] id(y)
```

```
In [20]: y[1] = 600  
        print (id(y))
```

140631056020552

```
id(x[1]) id(y[1])
```

```
In [25]: print (id(x[1]))  
        print (id(y[1]))
```

140631055651792

140631055652080

```
y id(y)
```

```
In [26]: y = [700, 800]  
        print (id(y))  
        print (id(x))
```

140631055628168

140631056020552