

Programación. Python

Tipos mutables e inmutables



```
lista = [1, 2, 3]
print(lista)
                    lista = [1, 2, 3]
print(id(lista))
                    print(lista)
                                           n = 100
                    print(id(lista))
                                           print(n)
n = 7
                    lista[0] = 666
print(n)
                                           print(id(n))
                    print(lista)
print(id(n))
                                           n = 666
                    print(id(lista))
                                           print(n)
[1, 2, 3]
                                           print(id(n))
2957914260104
                    [1, 2, 3]
                    2957914260552
                                           100
                    [666, 2, 3]
1417525904
                                           1417528880
                    2957914260552
                                           666
                                           2957914520240
```

```
lista = [1, 2, 3]
print(lista)
                    lista = [1, 2, 3]
                    print(lista)
print(id(lista))
                                            n = 100
                    print(id(lista))
n = 7
                                            print(n)
                    lista[0] = 666
print(n)
                                            print(id(n))
                    print(lista)
print(id(n))
                                            n ≠ 666
                    print(id(lista))
                                            pr/int(n)
[1, 2, 3]
                                            print(id(n))
2957914260104
                    [1, 2, /3]
                    2957914260552
                                           100
                    [666, 2, 3]
1417525904
                                            1417528880
                    2957914260552
                                            666
                                            2957914520240
```

mutable

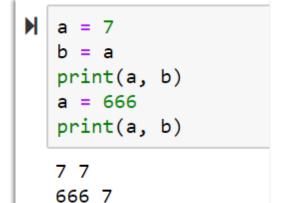
inmutable

```
def cambio(numeros, a):
    numeros[0] = numeros[0] * 100
    a = a + 1000
lista = [1, 2, 3]
n = 5
print(id(lista), lista)
print(id(n), n)
cambio(lista, n)
print(id(lista), lista)
print(id(n), n)
2957914915464 [1, 2, 3]
1417525840 5
2957914915464 [100, 2, 3]
```

1417525840 5

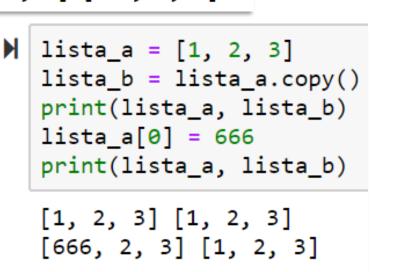
```
lista_a = [1, 2, 3]
lista_b = lista_a
print(lista_a, lista_b)
lista_a[0] = 666
print(lista_a, lista_b)
[1, 2, 3] [1, 2, 3]
[666, 2, 3] [666, 2, 3]
```

```
lista_a = [1, 2, 3]
lista_b = lista_a
print(lista_a, lista_b)
lista_a[0] = 666
print(lista_a, lista_b)
[1, 2, 3] [1, 2, 3]
[666, 2, 3] [666, 2, 3]
```



```
lista_a = [1, 2, 3]
lista_b = lista_a
print(lista_a, lista_b)
lista_a[0] = 666
print(lista_a, lista_b)

[1, 2, 3] [1, 2, 3]
[666, 2, 3] [666, 2, 3]
```



a = 7
b = a
print(a, b)
a = 666
print(a, b)

7 7
666 7

```
| lista a = [1, 2, 3]
  lista b = lista a
  print(lista a, lista b)
  lista a[0] = 666
  print(lista a, lista b)
  [1, 2, 3] [1, 2, 3]
  [666, 2, 3] [666, 2, 3]
                                         a = [7]
        lista_a = [1, 2, 3]
           lista_b = lista_a.copy()
           print(lista a, lista b)
           lista a[0] = 666
                                              nn[0] = nn[0] + 1000
           print(lista a, lista b)
                                           cambio(a)
                                           print(a, b)
```

[1, 2, 3] [1, 2, 3]

[666, 2, 3] [1, 2, 3]

```
b = a
       print(a, b)
       a = 666
       print(a, b)
       7 7
       666 7
print(a, b)
a = [666]
print(a, b)
print("-----
def cambio(nn):
```

M a = 7

[7] [7] [666] [7]

[1666] [7]

Catálogo de objetos mutables e inmutables

- Inmutables: int, float, decimal, complex, bool, string, tuple, range, frozenset, bytes
- Mutables: list, dict, set, bytearray, user-defined classes (salvo que se declaren específicamente como inmutables