

- Call by value (function does not change input)

If the input to a function is an immutable type (ie once we declare it we cannot change its value) then the function will not change the original input:

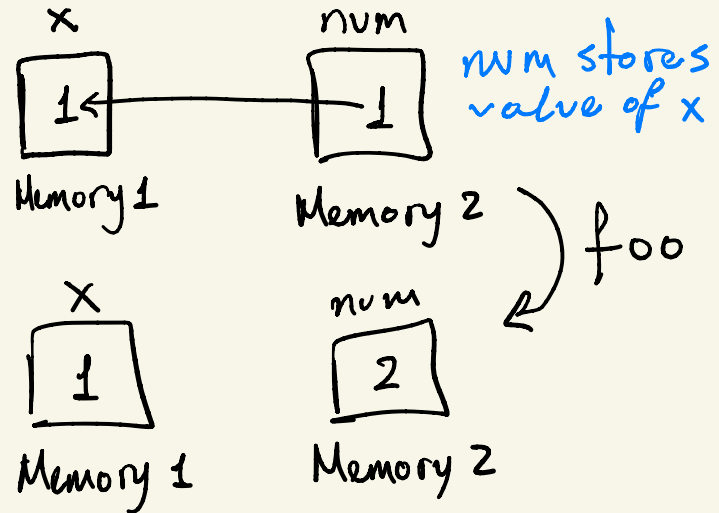
```
x = 1
```

```
def foo(num):
```

```
    num = 2
```

```
foo(x)
```

```
print(x) # prints x=1
```



- Call by reference (function changes input)

If the input to a function is an mutable type (ie once we declare it we change its value) then the function will change the original input:

```
list_x = [1, 2]
```

```
def foo(l):
```

```
    l[0] = 2
```

```
    l[1] = 3
```

```
foo(list_x)
```

```
print(list_x) # prints [2, 3]
```

