

```
In [1]: 1 def number_swap(num):
2         num = 77
3         print(num)
4
5 my_num = 5
6 print("Before -> {0}".format(my_num)) #5
7 number_swap(my_num)
```

```
Before -> 5
77
After -> 5
```

```
In [2]: 1 def pass_by_reference(a_list):
2         a_list.append("4")
3         a_list.append("5")
4         a_list.append("6")
5
6 my_list = [0,1,2]
7 print("Before -> {0}".format(my_list)) #[0,1,2]
8 pass_by_reference(my_list)
```

```
Before -> [0, 1, 2]
After -> [0, 1, 2, '4', '5', '6']
```

```
In [3]: 1 def pass_by_value(a_list):
2         alt_list = list(a_list) #create a copy
3         alt_list.append("4")
4         alt_list.append("5")
5         alt_list.append("6")
6
7 my_list = [0,1,2]
8 print("Before -> {0}".format(my_list)) #[0,1,2]
9 pass_by_value(my_list)
```

```
Before -> [0, 1, 2]
After -> [0, 1, 2]
```

```
In [4]: 1 def pass_by_value2(a_list):
2         a_list = [4,5,6] #you can't assign it ! but you can modify it using method
3
4 my_list = [0,1,2]
5 print("Before -> {0}".format(my_list)) #[0,1,2]
6 pass_by_value2(my_list)
```

```
Before -> [0, 1, 2]
After -> [0, 1, 2]
```

```
In [6]: 1 def pass_by_reference2(a_list):
2         a_list.clear()
3         a_list.append("4")
4         a_list.append("5")
5         a_list.append("6")
6
7 my_list = [0,1,2]
8 print("Before -> {0}".format(my_list)) #[0,1,2]
9 pass_by_reference2(my_list)
```

```
Before -> [0, 1, 2]
After -> ['4', '5', '6']
```