Problem 2

Develop a function that finds the minimum or maximum value in a list, depending on the caller's request.

1. **Write a loop (including initialization) to find both the minimum value in a list and that value's index in one pass through the list.**
2. **Write a function named min index that takes a list and returns a tuple containing the minimum value in the list and that value's index in the list.**
3. **Write a function named max index that takes a list and returns a tuple containing the maximum value in the list and that value's index in the list.**

In [7]:

```
def min_index(nums): #using loop to find min
    min=nums[0]
    min_idx=0
    for i in range(0,len(nums)):
        if(nums[i]<min):
            min=nums[i]
            min_idx=i
    return min, min_idx

def max_index(nums):#using loop to find max
    max=nums[0]
    max_idx=0
    for i in range(0,len(nums)):
        if(nums[i]>max):
            max=nums[i]
            max_idx=i
    return max, max_idx

def min_index_short(n): #using method
    return min(n), n.index(min(n))

def max_index_short(n):
    return max(n), n.index(max(n))

nums=[7,3,4,2,9,8,10,1,6,5]

print("min : %d, idx : %d"%min_index(nums))
print("max : %d, idx : %d"%max_index(nums))
print("-----to short-----")
print("min : %d, idx : %d"%min_index(nums))
print("max : %d, idx : %d"%max_index(nums))
```

```
min : 1, idx : 7
max : 10, idx : 6
-----to short-----
min : 1, idx : 7
max : 10, idx : 6
```