Date : 09/11/2023

1.Given a list of numbers, reverse the list

TC : O(n)
SC : O(1)

```
def reverseNumbers(nums):
    if len(nums) == 0:
        return []
    left = 0
    right = len(nums) - 1
    while left < right:
        temp = nums[left]
        nums[left] = nums[right]
        nums[right] = temp
        left += left
        right -= right
    return nums

nums = [2,3,4,4,5]
print(reverseNumbers(nums))
```

Test Cases:

TC1:
input = [2,3,4,5,6]
output = [6,5,3,2]

TC2:
input = []
output =[]

TC3:
input = [1]
output = [1]

===

2.Given an with integer numbers between 1 and 100, except 1 integer, find the missing integer

TC = O(n)

SC = O(n)

```
def findMissingNum(nums):
    num_dict = {}
    numLen = 3
    res = -1
    for n in nums:
        if n not in num_dict:
            num_dict[n] = n
    print(num_dict)
    for n in range(1,numLen):
        if n not in num_dict:
            res = n
    return res

nums = [1]
print(findMissingNum(nums))
```

Test Cases:
TC 1:
input : [1,2,3,4]
output : [5]

TC2:
input : []
output : -1

TC3:
input : [1]
output : -1 if nums = [1]

===

3.Given a list of numbers , find the third largest number

TC : O(n)
SC : O(1)

```
import heapq
def findKLargestNum(nums):
    if len(nums) == 0 or len(nums) == 1 or len(nums) == 2:
        return -1
    heapq.heapify(nums)
    return nums[2]
nums = [1,2,1]
print(findKLargestNum(nums))
```

Test Cases:
TC1 :
input : [2,1,3,4,5]
output : [3]

TC2:
input : []
output : []

TC3 :
input : [1]
output : [1]