EXAM

```
def removeelement(nums,val):
    writepointer=0
    for readpointer in range(len(nums)):
      if nums[readpointer]!=val:
          nums[writepointer]=nums[readpointer]
          writepointer+=1
    return writepointer

nums1=[2,4,7,1]
val1=7
k1=removeelement(nums1,val1)
print(k1,nums1[:k1])

def combinationsum(candidates, target):
    def backtrack(remaining, start, path, result):
        if remaining == 0:
```

```
            result.append(list(path))
            return
        elif remaining < 0:
            return
        for i in range(start, len(candidates)):
            path.append(candidates[i])
            backtrack(remaining - candidates[i], i,
path, result)
            path.pop()

    result = []
    backtrack(target, 0, [], result)
    return result

candidates1 = [2, 3, 6, 7]
target1 = 7
print(combinationsum(candidates1, target1))
```

```
def combinationSum2(candidates, target):
    def backtrack(remaining, start, path, result):
        if remaining == 0:
            result.append(list(path))
            return
        elif remaining < 0:
            return

        for i in range(start, len(candidates)):
            if i > start and candidates[i] == candidates[i - 1]:
                continue
            path.append(candidates[i])
            backtrack(remaining - candidates[i], i + 1, path, result)
            path.pop()
    candidates.sort()
    result = []
```

```
    backtrack(target, 0, [], result)
    return result
candidates1 = [10, 1, 2, 7, 6, 1, 5]
target1 = 8
print(combinationSum2(candidates1,
target1))

def lengthoflastword(s):
    return len(s.strip().split()[-1])
print(lengthoflastword("hello world"))

from itertools import permutations
def uniquepermutations(nums):
    return list(set(permutations(nums)))
print(uniquepermutations([1,1,2]))

def maxSubArray(nums):
    max_current = max_global = nums[0]
```

```
    for num in nums[1:]:
        max_current = max(num, max_current + num)
        if max_current > max_global:
            max_global = max_current
    return max_global
nums = [-2, 1, -3, 4, -1, 2, 1, -5, 4]
print(maxSubArray(nums))
```