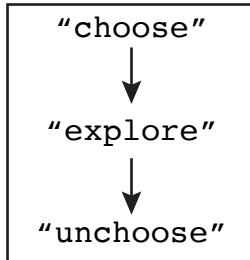


78. Subsets

Medium

Given an integer array `nums` of unique elements, return all possible subsets (the power set).

The solution set must not contain duplicate subsets.
Return the solution in any order.



class Solution:

```
def subsets_1(self, nums: List[int]) -> List[List[int]]:
    answer = []
    subset = []
```

```
def backtrack(i):
    if i >= len(nums):
        answer.append(subset.copy())
        return
    subset.append(nums[i])
    backtrack(i + 1)
    subset.pop()
    backtrack(i + 1)
backtrack(0)
return answer
```

"choose"

Select one number by adding it to a stack that holds the current branch.

"explore"

Recursively call the 'explore_helper' function which will carry on the recursion and pass along the stack which contains the numbers chosen in the current branch.

"unchoose"

Remove the recently added number and go back to step 1 to explore another sub-branch.

The termination condition of the comparison between the length of the branch and the length of the original list to permute will add the current branch to the 'results' list and stop the recursion.

```
def subsets_2(self, nums: List[int]) -> List[List[int]]:
```

```
def explore(chosen, remaining, res):
    if not remaining:
        res.append(chosen[:])
        return
    d = remaining.pop(0)
    #choose
    chosen.append(d)
    #explore
    explore(chosen, remaining, res)
    chosen.pop()
    explore(chosen, remaining, res)
    #unchoose
    remaining.insert(0, d)
```

```
res = []
chosen = []
explore(chosen, nums, res)
return res
```