

Permutations

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Total

Question

Solution

Accepted:

64938 Total Submissions: **202227** Difficulty: **Medium**

Given a collection of numbers, return all possible permutations.

For example,

[1,2,3] have the following permutations:

[1,2,3] , [1,3,2] , [2,1,3] , [2,3,1] , [3,1,2] , and [3,2,1] .

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 Python
 


```

1 class Solution(object):
2     def permute(self, nums):
3         """
4         :type nums: List[int]
5         :rtype: List[List[int]]
6         """
7         returnColumn = []
8         prefix = [0 for i in range(len(nums))]
9         self.DFS(nums,0,prefix,0,returnColumn)
10        return returnColumn
11    def DFS(self,nums,step,prefix,prefixSize,returnColumn):
12        if step >= len(nums):return
13        if step == len(nums)-1:
14            prefix[step] = nums[step]
15            newColumn = prefix[0:]
16            returnColumn.append(newColumn)
17            return
18        for i in range(step,len(nums)):
19            if i != step:
20                nums[i] = nums[i]^nums[step]
21                nums[step] = nums[i]^nums[step]
22                nums[i] = nums[i]^nums[step]
23                prefix[prefixSize] = nums[step]
24                self.DFS(nums,step+1,prefix,prefixSize+1,returnColumn)
25                nums[i] = nums[i]^nums[step]
26                nums[step] = nums[i]^nums[step]
27                nums[i] = nums[i]^nums[step]

```

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```
27  
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```

```
nums[step] = nums[i]^nums[step]  
nums[i] = nums[i]^nums[step]
```

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