

# Problem 46: Permutations

## Problem Information

**Difficulty:** Medium

**Acceptance Rate:** 81.31%

**Paid Only:** No

**Tags:** Array, Backtracking

## Problem Description

Given an array `nums` of distinct integers, return all the possible permutations. You can return the answer in **any order**.

**Example 1:**

**Input:** `nums = [1,2,3]` **Output:** `[[1,2,3],[1,3,2],[2,1,3],[2,3,1],[3,1,2],[3,2,1]]`

**Example 2:**

**Input:** `nums = [0,1]` **Output:** `[[0,1],[1,0]]`

**Example 3:**

**Input:** `nums = [1]` **Output:** `[[1]]`

**Constraints:**

`1 <= nums.length <= 6` `-10 <= nums[i] <= 10` All the integers of `nums` are **unique**.

## Code Snippets

**C++:**

```
class Solution {  
public:
```

```
vector<vector<int>> permute(vector<int>& nums) {  
  
}  
};
```

### Java:

```
class Solution {  
    public List<List<Integer>> permute(int[] nums) {  
  
    }  
}
```

### Python3:

```
class Solution:  
    def permute(self, nums: List[int]) -> List[List[int]]:
```