046. Permutations

046 Permutations

• BackTracking+array

Description

Given a collection of distinct 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],
    [3,2,1]
]
```

- 1. Thought line
- 2. BackTracking+array

```
class Solution {
                          \textit{void} \ \textit{backTracking\_fct} (\textit{vector} < \textit{vector} < \textit{int} > \& \ \textit{result}, \ \textit{vector} < \textit{int} > \& \ \textit{nums}, \ \textit{vector} < \textit{bool} > \& \ \textit{flag}, 
                                                                                                                                             vector<int>& temp){
                                                      if (temp.size()==nums.size()){
                                                                               result.push_back(temp);
                                                       for (int i = 0; i<=flag.size()-1; ++i){</pre>
                                                                                    if (!flag[i]){
                                                                                                               temp.push_back(nums[i]);
                                                                                                               backTracking_fct(result, nums, flag, temp);
                                                                                                                flag[i] = false;
                                                                                                                temp.pop_back();
                          vector<vector<int>>> permute(vector<int>& nums) {
                                                     vector<bool> flag(nums.size(),false);
                                                     vector<int> temp;
                                                     backTracking_fct(result, nums, flag, temp);
                                                        return result;
```