Combination Sum

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Total Question Solution

Accepted: **59694** Total Submissions: **212158** Difficulty: **Medium**

Given a set of candidate numbers (***C***) and a target number (***T***), find all unique combinations in ***C*** where the candidate numbers sums to ***T***.

The **same** repeated number may be chosen from ***C*** unlimited number of times.

Note:

- All numbers (including target) will be positive integers.
- Elements in a combination (a_1, a_2, … , a_k) must be in non-descending order. (ie, $a_1 \le a_2 \le \ldots \le a_k$).
- The solution set must not contain duplicate combinations.

For example, given candidate set `2,3,6,7` and target `7`,

A solution set is:

```
[7]
```

```
[2, 2, 3]
```

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Python

```
class Solution(object):
    def combinationSum(self, candidates, target):
        """
        :type candidates: List[int]
        :type target: int
        :rtype: List[List[int]]
        """
        candidates = sorted(candidates)
        returnColumn = []
        prefix = [0 for i in range(10000)]
        self.DFS(candidates,0,target,prefix,0,returnColumn)
```

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```
12          return returnColumn
13
14      def DFS(self,candidates,step,target,prefix,prefixSize,returnColumn):
15          if step > len(candidates):
16              return
17          if target <= 0:
18              return
19          for i in range(step,len(candidates)):
20              if candidates[i] > target:
21                  break
22              elif candidates[i] == target:
23                  newColumn = prefix[:prefixSize]
24                  newColumn.append(candidates[i])
25                  returnColumn.append(newColumn)
26                  return
27              else:
28                  prefix[prefixSize] = candidates[i]
29                  self.DFS(candidates,i+1,target-candidates[i],prefix,prefixSi
```

Custom Testcase

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