

Problems

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Job Fair **Another Coin Change Problem**

185

**Medium**Accuracy: **54.5%**Submissions: **17K+**Points: **4**

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Given three integers **n**, **k**, **target**, and an array of coins of size **n**. Find if it is possible to make a change of **target** cents by using an infinite supply of each coin but the total number of coins used must be exactly equal to **k**.

Example 1:**Input:** $n = 5, k = 3, \text{target} = 11$ $\text{coins} = \{1, 10, 5, 8, 6\}$ **Output:**

1

Explanation:

2 coins of 5 and 1 coins of 1 can be used to make change of 11 i.e. $11 \Rightarrow 5+5+1$.

Example 2:**Input:** $n = 3, k = 5, \text{target} = 25$ $\text{coins} = \{7, 2, 4\}$ **Output:**

1

Explanation:

3 coins 7, 2 coins of 2 can be used to make change of 25 i.e. $25 \Rightarrow 7+7+7+2+2$.



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Your Task:

This is a function problem. You only need to complete the function `makeChanges()` that 3 integers `n`, `k`, `target`, and an array `coins` as parameters and return `True` or `False`.

Expected Time Complexity: $O(n \cdot k \cdot \text{target})$

Expected Space Complexity: $O(k \cdot \text{target})$

Constraints:

$1 \leq n, k, \text{coins}[i] \leq 100$

$1 \leq \text{target} \leq 1000$

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C++ (g++ 5.4) ▾

Start Timer



```
1  ☐ // } Driver Code Ends
25
26
27
28
29  class Solution {
30      public:
31          bool makeChanges(int N, int K, int target, vector<int> &coins) {
32              // code here
33              vector<vector<bool>>> dp(K+1, vector<bool>(target+1, false));
34              dp[0][0]=true;
35              for(int i=0; i<N; i++){
36                  for(int j=1; j<=K; j++){
37                      for(int l=1; l<=target; l++){
38                          if(coins[i]<=l and dp[j][l]==false){
39                              dp[j][l]=dp[j-1][l-coins[i]];
40                          }
41                      }
42                  }
43              }
44              return dp[K][target];
45          }
46      };
47  };
48
49  ☐ // } Driver Code Ends
```

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