# Problem 1255: Maximum Score Words Formed by Letters

## Problem Information

**Difficulty:** Hard
**Acceptance Rate:** 81.63%
**Paid Only:** No
**Tags:** Array, Hash Table, String, Dynamic Programming, Backtracking, Bit Manipulation, Counting, Bitmask

## Problem Description

Given a list of `words`, list of single `letters` (might be repeating) and `score` of every character.

Return the maximum score of **any** valid set of words formed by using the given letters (`words[i]` cannot be used two or more times).

It is not necessary to use all characters in `letters` and each letter can only be used once. Score of letters `'a'`, `'b'`, `'c'`, ... ,`'z'` is given by `score[0]`, `score[1]`, ... , `score[25]` respectively.

**Example 1:**

**Input:** words = ["dog","cat","dad","good"], letters = ["a","a","c","d","d","d","g","o","o"], score = [1,0,9,5,0,0,3,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,0,0] **Output:** 23 **Explanation:** Score a=1, c=9, d=5, g=3, o=2 Given letters, we can form the words "dad" (5+1+5) and "good" (3+2+2+5) with a score of 23. Words "dad" and "dog" only get a score of 21.

**Example 2:**

**Input:** words = ["xxxz","ax","bx","cx"], letters = ["z","a","b","c","x","x","x"], score = [4,4,4,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,5,0,10] **Output:** 27 **Explanation:** Score a=4, b=4, c=4, x=5, z=10 Given letters, we can form the words "ax" (4+5), "bx" (4+5) and "cx" (4+5) with a score of 27. Word "xxxz" only get a score of 25.

**Example 3:**

**Input:** words = ["leetcode"], letters = ["l","e","t","c","o","d"], score = [0,0,1,1,1,0,0,0,0,0,0,1,0,0,1,0,0,0,0,1,0,0,0,0,0,0] **Output:** 0 **Explanation:** Letter "e" can only be used once.

**Constraints:**

* `1 <= words.length <= 14` * `1 <= words[i].length <= 15` * `1 <= letters.length <= 100` * `letters[i].length == 1` * `score.length == 26` * `0 <= score[i] <= 10` * `words[i]`, `letters[i]` contains only lower case English letters.

## Code Snippets

**C++:**

```
class Solution {
public:
int maxScoreWords(vector<string>& words, vector<char>& letters, vector<int>&
score) {

}
};
```

**Java:**

```
class Solution {
public int maxScoreWords(String[] words, char[] letters, int[] score) {

}
}
```

**Python3:**

```
class Solution:
def maxScoreWords(self, words: List[str], letters: List[str], score:
List[int]) -> int:
```