

Problem 3213: Construct String with Minimum Cost

Problem Information

Difficulty: Hard

Acceptance Rate: 18.96%

Paid Only: No

Tags: Array, String, Dynamic Programming, Suffix Array

Problem Description

You are given a string `target`, an array of strings `words`, and an integer array `costs`, both arrays of the same length.

Imagine an empty string `s`.

You can perform the following operation any number of times (including **zero**):

* Choose an index `i` in the range `[0, words.length - 1]`. * Append `words[i]` to `s`. * The cost of operation is `costs[i]`.

Return the **minimum** cost to make `s` equal to `target`. If it's not possible, return `-1`.

Example 1:

Input: target = "abcdef", words = ["abdef", "abc", "d", "def", "ef"], costs = [100, 1, 1, 10, 5]

Output: 7

Explanation:

The minimum cost can be achieved by performing the following operations:

* Select index 1 and append `"abc"` to `s` at a cost of 1, resulting in `s = "abc"`. * Select index 2 and append `"d"` to `s` at a cost of 1, resulting in `s = "abcd"`. * Select index 4 and append

`"ef"` to `s` at a cost of 5, resulting in `s = "abcdef"`.

Example 2:

Input: target = "aaaa", words = ["z", "zz", "zzz"], costs = [1, 10, 100]

Output: -1

Explanation:

It is impossible to make `s` equal to `target`, so we return -1.

Constraints:

* `1 <= target.length <= 5 * 104` * `1 <= words.length == costs.length <= 5 * 104` * `1 <= words[i].length <= target.length` * The total sum of `words[i].length` is less than or equal to `5 * 104`. * `target` and `words[i]` consist only of lowercase English letters. * `1 <= costs[i] <= 104`

Code Snippets

C++:

```
class Solution {  
public:  
    int minimumCost(string target, vector<string>& words, vector<int>& costs) {  
        }  
    };
```

Java:

```
class Solution {  
public int minimumCost(String target, String[] words, int[] costs) {  
        }  
    }
```

Python3:

```
class Solution:  
    def minimumCost(self, target: str, words: List[str], costs: List[int]) ->  
        int:
```