

Problem 3253: Construct String with Minimum Cost (Easy)

Problem Information

Difficulty: Medium

Acceptance Rate: 0.00%

Paid Only: No

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:

$1 \leq \text{target.length} \leq 2000$

$1 \leq \text{words.length} == \text{costs.length} \leq 50$

$1 \leq \text{words[i].length} \leq \text{target.length}$

target

and

words[i]

consist only of lowercase English letters.

$1 \leq \text{costs[i]} \leq 10$

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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:
```

Python:

```
class Solution(object):  
    def minimumCost(self, target, words, costs):  
        """  
        :type target: str  
        :type words: List[str]  
        :type costs: List[int]  
        :rtype: int  
        """
```

JavaScript:

```
/**  
 * @param {string} target  
 * @param {string[]} words  
 * @param {number[]} costs  
 * @return {number}  
 */  
var minimumCost = function(target, words, costs) {  
  
};
```

TypeScript:

```
function minimumCost(target: string, words: string[], costs: number[]):  
    number {  
  
};
```

C#:

```
public class Solution {  
    public int MinimumCost(string target, string[] words, int[] costs) {
```

```
}
```

```
}
```

C:

```
int minimumCost(char* target, char** words, int wordsSize, int* costs, int
costsSize) {

}
```

Go:

```
func minimumCost(target string, words []string, costs []int) int {

}
```

Kotlin:

```
class Solution {

    fun minimumCost(target: String, words: Array<String>, costs: IntArray): Int {

    }
}
```

Swift:

```
class Solution {

    func minimumCost(_ target: String, _ words: [String], _ costs: [Int]) -> Int {
    }

}
```

Rust:

```
impl Solution {
    pub fn minimum_cost(target: String, words: Vec<String>, costs: Vec<i32>) ->
i32 {

}
```

Ruby:

```
# @param {String} target
# @param {String[]} words
# @param {Integer[]} costs
# @return {Integer}
def minimum_cost(target, words, costs)

end
```

PHP:

```
class Solution {

    /**
     * @param String $target
     * @param String[] $words
     * @param Integer[] $costs
     * @return Integer
     */
    function minimumCost($target, $words, $costs) {

    }
}
```

Dart:

```
class Solution {
int minimumCost(String target, List<String> words, List<int> costs) {
}
```

Scala:

```
object Solution {
def minimumCost(target: String, words: Array[String], costs: Array[Int]): Int
= {

}
```

Elixir:

```
defmodule Solution do
  @spec minimum_cost(target :: String.t, words :: [String.t], costs :: [integer]) :: integer
  def minimum_cost(target, words, costs) do

  end
end
```

Erlang:

```
-spec minimum_cost(Target :: unicode:unicode_binary(), Words :: [unicode:unicode_binary()], Costs :: [integer()]) -> integer().
minimum_cost(Target, Words, Costs) ->
  .
```

Racket:

```
(define/contract (minimum-cost target words costs)
  (-> string? (listof string?) (listof exact-integer?) exact-integer?))
```

Solutions

C++ Solution:

```
/*
 * Problem: Construct String with Minimum Cost (Easy)
 * Difficulty: Medium
 * Tags: array, string
 *
 * Approach: Use two pointers or sliding window technique
 * Time Complexity: O(n) or O(n log n)
 * Space Complexity: O(1) to O(n) depending on approach
 */

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

}
```

```
};
```

Java Solution:

```
/**  
 * Problem: Construct String with Minimum Cost (Easy)  
 * Difficulty: Medium  
 * Tags: array, string  
 *  
 * Approach: Use two pointers or sliding window technique  
 * Time Complexity: O(n) or O(n log n)  
 * Space Complexity: O(1) to O(n) depending on approach  
 */  
  
class Solution {  
    public int minimumCost(String target, String[] words, int[] costs) {  
        // Implementation  
    }  
}
```

Python3 Solution:

```
"""  
Problem: Construct String with Minimum Cost (Easy)  
Difficulty: Medium  
Tags: array, string  
  
Approach: Use two pointers or sliding window technique  
Time Complexity: O(n) or O(n log n)  
Space Complexity: O(1) to O(n) depending on approach  
"""  
  
class Solution:  
    def minimumCost(self, target: str, words: List[str], costs: List[int]) -> int:  
        # TODO: Implement optimized solution  
        pass
```

Python Solution:

```

class Solution(object):
    def minimumCost(self, target, words, costs):
        """
        :type target: str
        :type words: List[str]
        :type costs: List[int]
        :rtype: int
        """

```

JavaScript Solution:

```

/**
 * Problem: Construct String with Minimum Cost (Easy)
 * Difficulty: Medium
 * Tags: array, string
 *
 * Approach: Use two pointers or sliding window technique
 * Time Complexity: O(n) or O(n log n)
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 */

/**
 * @param {string} target
 * @param {string[]} words
 * @param {number[]} costs
 * @return {number}
 */
var minimumCost = function(target, words, costs) {
};


```

TypeScript Solution:

```

/**
 * Problem: Construct String with Minimum Cost (Easy)
 * Difficulty: Medium
 * Tags: array, string
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 * Approach: Use two pointers or sliding window technique
 * Time Complexity: O(n) or O(n log n)
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 */


```

```
function minimumCost(target: string, words: string[], costs: number[]): number {
    };
}
```

C# Solution:

```
/*
 * Problem: Construct String with Minimum Cost (Easy)
 * Difficulty: Medium
 * Tags: array, string
 *
 * Approach: Use two pointers or sliding window technique
 * Time Complexity: O(n) or O(n log n)
 * Space Complexity: O(1) to O(n) depending on approach
 */

public class Solution {
    public int MinimumCost(string target, string[] words, int[] costs) {
        }

    }
}
```

C Solution:

```
/*
 * Problem: Construct String with Minimum Cost (Easy)
 * Difficulty: Medium
 * Tags: array, string
 *
 * Approach: Use two pointers or sliding window technique
 * Time Complexity: O(n) or O(n log n)
 * Space Complexity: O(1) to O(n) depending on approach
 */

int minimumCost(char* target, char** words, int wordsSize, int* costs, int costsSize) {
    }
```

Go Solution:

```
// Problem: Construct String with Minimum Cost (Easy)
// Difficulty: Medium
// Tags: array, string
//
// Approach: Use two pointers or sliding window technique
// Time Complexity: O(n) or O(n log n)
// Space Complexity: O(1) to O(n) depending on approach

func minimumCost(target string, words []string, costs []int) int {

}
```

Kotlin Solution:

```
class Solution {
    fun minimumCost(target: String, words: Array<String>, costs: IntArray): Int {
        return 0
    }
}
```

Swift Solution:

```
class Solution {
    func minimumCost(_ target: String, _ words: [String], _ costs: [Int]) -> Int {
        return 0
    }
}
```

Rust Solution:

```
// Problem: Construct String with Minimum Cost (Easy)
// Difficulty: Medium
// Tags: array, string
//
// Approach: Use two pointers or sliding window technique
// Time Complexity: O(n) or O(n log n)
// Space Complexity: O(1) to O(n) depending on approach

impl Solution {
```

```
pub fn minimum_cost(target: String, words: Vec<String>, costs: Vec<i32>) ->
i32 {
}
}
```

Ruby Solution:

```
# @param {String} target
# @param {String[]} words
# @param {Integer[]} costs
# @return {Integer}
def minimum_cost(target, words, costs)

end
```

PHP Solution:

```
class Solution {

    /**
     * @param String $target
     * @param String[] $words
     * @param Integer[] $costs
     * @return Integer
     */
    function minimumCost($target, $words, $costs) {

    }
}
```

Dart Solution:

```
class Solution {
int minimumCost(String target, List<String> words, List<int> costs) {
}
}
```

Scala Solution:

```
object Solution {  
    def minimumCost(target: String, words: Array[String], costs: Array[Int]): Int  
    = {  
  
    }  
}
```

Elixir Solution:

```
defmodule Solution do  
  @spec minimum_cost(target :: String.t, words :: [String.t], costs :: [integer]) :: integer  
  def minimum_cost(target, words, costs) do  
  
  end  
end
```

Erlang Solution:

```
-spec minimum_cost(Target :: unicode:unicode_binary(), Words :: [unicode:unicode_binary()], Costs :: [integer()]) -> integer().  
minimum_cost(Target, Words, Costs) ->  
.
```

Racket Solution:

```
(define/contract (minimum-cost target words costs)  
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```