

Word Break

Given a string s and a dictionary of strings $wordDict$, add spaces in s to construct a sentence where each word is a valid dictionary word. Return all such possible sentences in any order.

Note that the same word in the dictionary may be reused multiple times in the segmentation.

Example 1:

Input: $s = \text{"catsanddog"}$, $wordDict = [\text{"cat"}, \text{"cats"}, \text{"and"}, \text{"sand"}, \text{"dog"}]$

Output: $[\text{"cats and dog"}, \text{"cat sand dog"}]$

Example 2:

Input: $s = \text{"pineapplepenapple"}$, $wordDict = [\text{"apple"}, \text{"pen"}, \text{"applepen"}, \text{"pine"}, \text{"pineapple"}]$

Output: $[\text{"pine apple pen apple"}, \text{"pineapple pen apple"}, \text{"pine applepen apple"}]$

Explanation: Note that you are allowed to reuse a dictionary word.

Example 3:

Input: $s = \text{"catsanddog"}$, $wordDict = [\text{"cats"}, \text{"dog"}, \text{"sand"}, \text{"and"}, \text{"cat"}]$

Output: $[]$

Constraints:

- $1 \leq s.length \leq 20$
- $1 \leq wordDict.length \leq 1000$
- $1 \leq wordDict[i].length \leq 10$
- s and $wordDict[i]$ consist of only lowercase English letters.
- All the strings of $wordDict$ are unique.
- Input is generated in a way that the length of the answer doesn't exceed 10^5 .