

PromptScratchpadOur Solution(s)Video Explanation

Run Code

Solution 1Solution 2Solution 3

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 // O(ns + bs) time | O(ns) space
4 function multiStringSearch(bigString, smallStrings) {
5   const trie = new Trie();
6   for (const string of smallStrings) {
7     trie.insert(string);
8   }
9   const containedStrings = {};
10  for (let i = 0; i < bigString.length; i++) {
11    findSmallStringsIn(bigString, i, trie, containedStrings);
12  }
13  return smallStrings.map(string => string in containedStrings);
14 }
15
16 function findSmallStringsIn(string, startIdx, trie, containedStrings) {
17   let currentNode = trie.root;
18   for (let i = startIdx; i < string.length; i++) {
19     const currentChar = string[i];
20     if (!(currentChar in currentNode)) break;
21     currentNode = currentNode[currentChar];
22     if (trie.endSymbol in currentNode) containedStrings[currentNode[trie.endSymbol]] = true;
23   }
24 }
25
26 class Trie {
27   constructor() {
28     this.root = {};
29     this.endSymbol = '*';
30   }
31
32   insert(string) {
33     let current = this.root;
34     for (let i = 0; i < string.length; i++) {
35       if (!(string[i] in current)) {
36         current[string[i]] = {};
37       }
38       current = current[string[i]];
39     }
40     current[this.endSymbol] = string;
41   }
42 }
43
44 exports.multiStringSearch = multiStringSearch;
45
```