

PromptScratchpadOur Solution(s)Video Explanation

Run Code

Solution 1Solution 2

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 // O(n^3 + m) time | O(n + m) space - where n is the number of digits in Pi and m is the number of favorite numbers
4 function numbersInPi(pi, numbers) {
5   const numbersTable = {};
6   for (const number of numbers) {
7     numbersTable[number] = true;
8   }
9   const minSpaces = getMinSpaces(pi, numbersTable, {}, 0);
10  return minSpaces === Infinity ? -1 : minSpaces;
11 }
12
13 function getMinSpaces(pi, numbersTable, cache, idx) {
14   if (idx === pi.length) return -1;
15   if (idx in cache) return cache[idx];
16   let minSpaces = Infinity;
17   for (let i = idx; i < pi.length; i++) {
18     const prefix = pi.slice(idx, i + 1);
19     if (prefix in numbersTable) {
20       const minSpacesInSuffix = getMinSpaces(pi, numbersTable, cache, i + 1);
21       minSpaces = Math.min(minSpaces, minSpacesInSuffix + 1);
22     }
23   }
24   cache[idx] = minSpaces;
25   return cache[idx];
26 }
27
28 exports.numbersInPi = numbersInPi;
29
```