

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 cache = {};
10  for (let i = pi.length - 1; i >= 0; i--) {
11    getMinSpaces(pi, numbersTable, cache, i);
12  }
13  return cache[0] === Infinity ? -1 : cache[0];
14 }
15
16 function getMinSpaces(pi, numbersTable, cache, idx) {
17   if (idx === pi.length) return -1;
18   if (idx in cache) return cache[idx];
19   let minSpaces = Infinity;
20   for (let i = idx; i < pi.length; i++) {
21     const prefix = pi.slice(idx, i + 1);
22     if (prefix in numbersTable) {
23       const minSpacesInSuffix = getMinSpaces(pi, numbersTable, cache, i + 1);
24       minSpaces = Math.min(minSpaces, minSpacesInSuffix + 1);
25     }
26   }
27   cache[idx] = minSpaces;
28   return cache[idx];
29 }
30
31 exports.numbersInPi = numbersInPi;
32
```