

Solution 1Solution 2

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 package main
4
5 import "math"
6
7 // O(n^3 + m) time | O(n + m) space - where n is the number of digits
8 // in Pi and m is the number of favorite numbers.
9 func NumbersInPi(pi string, numbers []string) int {
10     numbersTable := map[string]bool{}
11     for _, number := range numbers {
12         numbersTable[number] = true
13     }
14     minSpaces := getMinSpaces(pi, numbersTable, map[int]int{}, 0)
15     if minSpaces == math.MaxInt32 {
16         return -1
17     }
18     return minSpaces
19 }
20
21 func getMinSpaces(pi string, numbersTable map[string]bool,
22     cache map[int]int, idx int) int {
23     if idx == len(pi) {
24         return -1
25     } else if val, found := cache[idx]; found {
26         return val
27     }
28     minSpaces := math.MaxInt32
29     for i := idx; i < len(pi); i++ {
30         prefix := pi[idx : i+1]
31         if _, found := numbersTable[prefix]; found {
32             minSpacesInSuffix := getMinSpaces(pi, numbersTable, cache, i+1)
33             minSpaces = min(minSpaces, minSpacesInSuffix+1)
34         }
35     }
36     cache[idx] = minSpaces
37     return cache[idx]
38 }
39
40 func min(a, b int) int {
41     if a < b {
42         return a
43     }
44     return b
45 }
46
```