

Prompt	Scratchpad	Our Solution(s)	Video Explanation	Run Code
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Solution 1

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1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 using System;
4 using System.Linq;
5 using System.Collections.Generic;
6
7 public class Program {
8     // O(n) time | O(n) space - where n is the length of the path
9     public static string ShortenPath(string path) {
10         bool startsWithPath = path[0] == '/';
11         string[] tokensArr = path.Split("/");
12         List<string> tokensList = new List<string>(tokensArr);
13         List<string> filteredTokens = tokensList.FindAll(token => isImportantToken(token));
14         Stack<string> stack = new Stack<string>();
15         if (startsWithPath) stack.Push("");
16         foreach (string token in filteredTokens) {
17             if (token.Equals("..")) {
18                 if (stack.Count == 0 || stack.Peek().Equals("..")) {
19                     stack.Push(token);
20                 } else if (!stack.Peek().Equals("")) {
21                     stack.Pop();
22                 }
23             } else {
24                 stack.Push(token);
25             }
26         }
27
28         if (stack.Count == 1 && stack.Peek().Equals("")) return "/";
29         var arr = stack.ToArray();
30         Array.Reverse(arr);
31         return String.Join("/", arr);
32     }
33
34     public static bool isImportantToken(string token) {
35         return token.Length > 0 && !token.Equals(".");
36     }
37 }
38
```

