Prompt   Scratchpad   Our Solution(s)   Video Explanation   Run Code

Solution 1

```swift
1    // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3    class Program {
4      // O(n) time | O(n) space - where n is the length of the path
5      static func shortenPath(_ path: String) -> String {
6        let startsWithSlash = path.first == "/"
7        let splits = path.components(separatedBy: "/")
8        var tokens = [String]()
9        for token in splits {
10          if isImportantToken(token) {
11            tokens.append(token)
12          }
13        }
14
15        var stack = [String]()
16        if startsWithSlash {
17          stack.append("")
18        }
19        for token in tokens {
20          if token == ".." {
21            if stack.count == 0 || stack[stack.count - 1] == ".." {
22              stack.append(token)
23            } else if stack[stack.count - 1] != "" {
24              stack.removeLast()
25            }
26          } else {
27            stack.append(token)
28          }
29        }
30
31        if stack.count == 1, stack[0] == "" {
32          return "/"
33        }
34        return stack.joined(separator: "/")
35      }
36
37      static func isImportantToken(_ token: String) -> Bool {
38        return token.length > 0 && token != "."
39      }
40    }
41
```