//: Playground - noun: a place where people can play

import UIKit

import Foundation

public func solution(\_ N : Int, \_ A : inout [Int]) -> [Int] {

var final = Array(repeating: 0, count: N)

var currentMax = 0

var lastMax = 0

for i in A {

let index = i - 1

if i >= 1 && i <= N {

final[index] = max(final[index], lastMax) + 1

currentMax = max(currentMax, final[index])

} else if (i == N + 1){

lastMax = currentMax

}

}

return final.map { max($0, lastMax) }

}

var array = [3,4,4,6,1,4,4]

solution(5, &array)