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

import UIKit

import Foundation

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

// MARK: - SET

let set = Set(A)

var i = 1

while true {

if !set.contains(i) {

return i

}

i += 1

}

/\*

// MARK: - DICTIONARY

var a = [Int:Bool]()

for i in A {

a[i] = true

}

var i = 1

while true {

if a[i] == nil {

return i

}

i += 1

}

\*/

/\*

// MARK: - WITH SORT()

// 88% Проседает на performance из-за sorted()

var missing = 1

let b = A.sorted()

for i in b {

if i == missing {

missing += 1

} else if i > missing {

break

}

}

return missing

\*/

}

var A = [Int]()

A += 1...10000

A.remove(at: 344)

//A.removeFirst()

solution(&A)