

Our Solution(s)

Run Code

Your Solutions

Run Code

Solution 1Solution 2

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 package main
4
5 // O(nlogn) time | O(n) space
6 func LongestIncreasingSubsequence(array []int) []int {
7     sequences := make([]int, len(array))
8     indices := make([]int, len(array)+1)
9     for i := range array {
10         sequences[i] = -1
11         indices[i] = -1
12     }
13     length := 0
14     for i, num := range array {
15         newLength := binarySearch(1, length, indices, array, num)
16         sequences[i] = indices[newLength-1]
17         indices[newLength] = i
18         length = max(length, newLength)
19     }
20     return buildSequence(array, sequences, indices[length])
21 }
22
23 func binarySearch(startIndex, endIndex int, indices, array []int, num
24     if startIndex > endIndex {
25         return startIndex
26     }
27     middleIndex := (startIndex + endIndex) / 2
28     if array[indices[middleIndex]] < num {
29         startIndex = middleIndex + 1
30     } else {
31         endIndex = middleIndex - 1
32     }
33     return binarySearch(startIndex, endIndex, indices, array, num)
```

Solution 1Solution 2Solution 3

```
1 package main
2
3 func LongestIncreasingSubsequence(input []int) []int {
4     // Write your code here.
5     return nil
6 }
7
```

Our Tests

Custom Output

Submit Code

```
14 # Run on Theano using theano.tensor blas
15 expected = theano.tensor blas
16 input = theano.tensor blas
17 output = theano.tensor blas
18 theano.tensor blas, expected, output
19 }
20 }
21 # Run on Theano using theano.tensor blas
22 expected = theano.tensor blas
23 input = theano.tensor blas
24 output = theano.tensor blas
25 theano.tensor blas, expected, output
26 }
```

Run or submit code when you're ready.