

CatcherLIS.java

```
1
2
3
4 /*Longest Integer Sequence Problem CATCHER
7
8
9 import java.util.*;
10
11 class CatcherLIS{
12     static Integer[] A;
13     static int n;
14     static int temp,temp1;
15     static ArrayList<Integer> input;
16     static Scanner scan;
17     static int[] LIS;
18     public static void main(String[] args){
19
20         input = new ArrayList<Integer>();
21         scan = new Scanner(System.in);
22         temp = -2;
23         temp1 = -2;
24         int t =0;
25         while(true){
26             temp = scan.nextInt();
27             if(temp==-1){
28                 A = new Integer[input.size()];
29 //             System.out.println(Arrays.toString(input.toArray(A)));
30                 A = input.toArray(A);
31                 LIS = new int[A.length];
32                 lis();
33                 if(t!=0)
34                     System.out.println();
35                 t++;
36                 System.out.println("Test #"+t+":");
37                 System.out.println("    maximum possible
interceptions: "+maxLIST(LIS));
38                 temp1=scan.nextInt();
39                 if(temp1==-1){
40                     break;
```

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41         }
42         else{
43
44             input = new ArrayList<Integer>();
45             input.add(temp1);
46
47
48         }
49     }
50     else{
51         input.add(temp);
52     }
53 }
54
55 }
56
57 static void lis(){
58
59     Arrays.fill(LIS, 1);
60 // Arrays.fill(from, -1);
61     for(int a =0; a<A.length; a++){
62         for(int b = 0; b<a ; b++){
63             if(A[a]<A[b] && LIS[a]<LIS[b]+1)
64             {
65                 LIS[a]=LIS[b]+1;
66 //                 this.from[a]=b;
67             }
68 //                 System.out.println(Arrays.toString(LIS));
69 //                 System.out.println(Arrays.toString(from));
70             }
71         }
72     }
73
74     static int maxLIST(int[] LIST)
75     {
76
77         int maxLIS;
78         int maxIndex = 0;
79         maxLIS = LIST[0];
80         for(int m = 1; m<LIS.length; m++)
```

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```
81         {
82             if (LIS[m] >= LIST[maxIndex])
83             {
84                 maxLIS = LIST[m];
85                 maxIndex = m;
86             }
87         }
88     return maxLIS;
89 }
90
91
92
93 }
94
```