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3 //COSC 3P03
4 //Question 1
5 public class COSC_3P03_A3_Q1
6 {
7     public static int tempList = 0;
8     public static String maxList = "";
9
10    public static int longestAscendingSubsequence(int[] s, int i, int n, int prev,
11    String list)
12    {
13        if (i == n)
14        {
15            //compares the current list we are checking to see if its longer then pasts
16            lists //if it is we store that as the new longest we store that o be printed at the
17            end
18            String[] listSize = list.split(" ");
19            if(listSize.length > tempList)
20            {
21                tempList = listSize.length;
22                maxList = list;
23            }
24            return 0;
25        }
26        int adv = longestAscendingSubsequence(s, i+1, n, prev, list);
27        int hold = 0;
28        if (s[i] > prev)
29            hold = 1 + longestAscendingSubsequence(s, i+1, n, s[i], list +s[i] + " ");
30        return Integer.max(hold, adv);
31    }
32    public static void main(String[] args)
33    {
34        int s[] = {11, 17, 5, 8, 6, 4, 7, 12, 3};
35        String list = "";
36        int listSize = longestAscendingSubsequence(s, 0, s.length, Integer.MIN_VALUE,
37        list);
38        System.out.print("With the array S = ");
39        for(int i = 0; i < s.length-1; i++)
40            System.out.print(s[i] + ", ");
41        System.out.println(s[s.length-1]);
42        System.out.print("The Longest Ascending Subsequence is " + maxList);
43        System.out.println("with a length of " + listSize);
44    }
45 }

```