Programming Assignment 6

Skiing

Note: Please strictly follow the instructions, otherwise your program will get less scores since we are using a automated judgement system. A successful attempt means your program passed all our test cases. **Total score for this problem is 6 points and each failed attempt will cost you 0.5 point.**

Your program have to read data from standard input and construct a linked-list, then respond to the query by outputting to standard output.

Michael likes skiing. When skiing, one would slide down from a higher place to a lower place to gain speed. But when one arrives at the bottom, he has to walk up or wait others to pick him up. So every time Michael always chooses the longest distance he can slide.
Suppose the skiing field is a rectangular area which is described by a two-dimensional array. Each element of the array denotes the height of the point. Michael can start from any point, and he can slide to one of the four adjacent points if its height is lower than current height. Michael cannot leave ski field when skiing.

Input Specification:

The first line of input contains two integers, the number of rows (R) and columns (C) of the ski field, followed by a R*C matrix which describes the height of each point.

Output Specification:

Print the length of the longest path that Michael can slide. There should be no new line at the end of output.

Sample Input:

```
5 5
1 2 3 4 5
16 17 18 19 6
15 24 25 20 7
14 23 22 21 8
13 12 11 10 9
```

Sample Output:

```
25
```

Hint: The longest path for the above test case:
`25->24->23->22->21-> ... ->3->2->1`