

## Finding a Longest Increasing Substring

Input: sequence (or array)  $X = x_1x_2 \dots x_n$  of integers

Output: increasing substring of  $X$  that is as long as possible.

Example:  $X = 1, 3, 1, 8, 2, 4, 9, 2, 10, 3$  (so  $x_1 = 1, x_2 = 3$ , etc.)

Which of the following are increasing substrings?

1.  $x_1$
2.  $x_5$
3.  $x_1, x_3$
4.  $x_1, x_2$
5.  $x_2, x_3$
6.  $x_3, x_4$