

Computing $M[i]$

Let $M[i]$ denote the length of the longest increase substring that ends at x_i .

Then how we set $M[i]$ depends on the value of i :

1. If $i = 1$ then $M[i] := 1$
2. If $i \geq 2$ then:
 - ▶ $M[i] := 1$ if $x_{i-1} \geq x_i$
 - ▶ $M[i] := 1 + M[i - 1]$ if $x_{i-1} < x_i$

Why is this correct?