

Longest  
Substring

No Duplicates

LCO

key,  
Value

A: 0
B: 1
C: 2
D: 3
E: 7
F: 8

$\downarrow^S$   
 A B C D A B C E F

0 1 2 3 4 5 6 7 8

$$S = \max(S, l+1)$$

$$\begin{aligned}
 MAX &= \max(\max, (end - S) + 1) \\
 &= 5, 6 \\
 &= 6
 \end{aligned}$$

MAX

$\downarrow$   
~~0~~

~~1~~  
~~2~~

~~3~~  
~~4~~

~~5~~  
6