

**BWMATCHING**(*FirstColumn*, *LastColumn*, *Pattern*, LASTTOFIRST)

$top \leftarrow 0$

$bottom \leftarrow |LastColumn| - 1$

**while**  $top \leq bottom$

**if** *Pattern* is nonempty

$symbol \leftarrow$  last letter in *Pattern*

        remove last letter from *Pattern*

**if** positions from  $top$  to  $bottom$  in *LastColumn* contain  $symbol$

$topIndex \leftarrow$  first position of  $symbol$  among positions from  $top$  to  $bottom$   
                                    in *LastColumn*

$bottomIndex \leftarrow$  last position of  $symbol$  among positions from  $top$  to  
                                     $bottom$  in *LastColumn*

$top \leftarrow$  LASTTOFIRST( $topIndex$ )

$bottom \leftarrow$  LASTTOFIRST( $bottomIndex$ )

**else**

**return** 0

**else**

**return**  $bottom - top + 1$