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**Algorithm** Find the minimum edit distance to convert  $str_1$  to  $str_2$

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**Ensure:** Zero Based Indexing for the Matrix, One Based Index for the Strings

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1: function EDIT_DISTANCE( $str_1, str_2$ )
  ▷  $edit[i][j]$  denotes the edit distance of the first  $i$  characters of  $str_1$  and the first  $j$  characters
  of  $str_2$ 
2:    $edit[i][0] \leftarrow i$                                  $\forall i$                                 ▷ Delete  $i$  characters
3:    $edit[0][j] \leftarrow j$                                  $\forall j$                                 ▷ Insert  $j$  characters
4:   for  $i = 1 : str_1.len$  do
5:     for  $j = 1 : str_2.len$  do
6:        $insert \leftarrow 1 + edit[i][j - 1]$ 
7:        $delete \leftarrow 1 + edit[i - 1][j]$ 
8:        $replace \leftarrow 1 + edit[i - 1][j - 1]$ 
9:        $match \leftarrow edit[i - 1][j - 1]$ 
10:      if  $str_1[i] == str_2[j]$  then
11:         $edit[i][j] \leftarrow match$ 
12:      else
13:         $edit[i][j] \leftarrow \min(insert, delete, replace)$ 
14:  return  $edit[str_1.len][str_2.len]$ 
```

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