

Smallest subsequence which contains all the characters from given array in a given string

Algorithm

Step 1: **characters** \leftarrow input all the characters to be matched in list data structure

Step 2: **stringArray** \leftarrow input the string to be processed.

Step 3: call the procedure **findMinSubSequence** passing **characters** and **stringArray** as input.

Step 4: Display minimum subsequence if found any.

Procedure **findMinSubSequence(characters, stringArray)**

minLength \leftarrow len(**characters**)

maxlength \leftarrow len(**stringArray**)

declare **flags** dictionary and initialize each flag to 0 to keep track of each character found in the subsequence.

declare **minSubsequence** as list

Initialize **i, j, k**

for **k** \leftarrow **minLength** to **maxLength+1**

 for **j** \leftarrow 0 to **maxLength - k + 1**

 delete all the elements from **minSubsequence** if any

 for **i** \leftarrow **j** to **k+j**

if value at **stringArray[i]** is found in the **characters** array

 change the corresponding flag to 1 in **flags** dictionary

if all the flags in **flags** dictionary are change to 1

 return **minSubsequence**

 delete all the items from **flags** dictionary

re- declare **flags** dictionary and re-initialize each flag to 0 to keep track of each character found in the next subsequence.

