

Algorithm - Longest Common Prefix [Notes]

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Longest Common Prefix :-

[club, clap, clove] \rightarrow LCP: cl

— Brute force :-

Strs = [Cluster, clue, Clutch, club, Clumsy,] \rightarrow take first char of first string & compare it with all other strings.
 \uparrow
 $n = \text{Strs.size}()$ \times (not matched)
 $\rightarrow T = O(n \times k)$
 \uparrow
(length of LCP)

— Efficient algo -

[Cluster, clue, Clutch, club, Clumsy,] $\xrightarrow{\text{sort it}}$ [club, clue, clumsy, Cluster, Clutch]
 \downarrow
take the first & last string of the array & find the LCP in them. That LCP will be our final answer.
 $\rightarrow T = O(n \log n)$ \rightarrow to sort.
 $S = O(1)$