Longest Common Prefix

BRUTE FORCE :

Sort the array so that the smallest length word is at the very beginning. Run nested loops for the rest of the word match each character till the length of the first word.

Code :

```
#include <bits/stdc++.h>
string longestCommonPrefix(vector<string> &arr, int n)
{
    // Write your code here
    sort(arr.begin(),arr.end());
    string st=arr[0];
    int i,j,count=0;
    for(i=0;i<st.size();i++)
    {
        for(j=1;j<n;j++)
        {
            if(arr[j][i]!=st[i])
                break;
        }
        if(j==n)
        {
            count++;
        }
        else
        {
            return st.substr(0,count); //if either one of the string mismatches at any position
        }

    }
    if(i==st.size())
    {
        return st; // if the whole shortest string matches.
    }
    return "";
}
```

- Time Complexity : O(nlogn)+O(m*n) where m is the length of the shortest string.
- Space Complexity : O(1)

Optimised Approach : Trie