Longest common Prefix

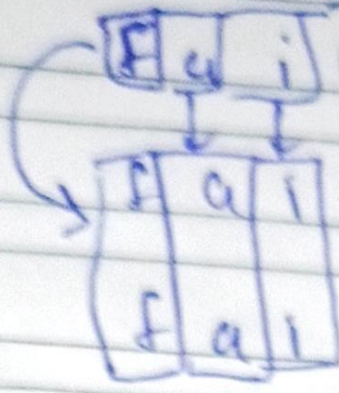
S = {"faisal", "faizan", "faihan"}

- Brute force :-

f a i s al

f a i z an

f a i h an



$O(n^2)$

ans → f a i

- optimal approach :-

I/P

f a i s al

f a i z an

f a i h an

H a r h a

sort

1] f a i h an

f a i s al

2] f a i z an

H a r sh

ans → f a i

ans → " "

steps :- 1] sort I/P str

2] comp first & last str char. by char.

	0	1	2	3	4		size
s1	f	a	i	z	a	→	5
s2	f	a	i	z	a	→	4

ans	i	s1	s2
f	0	f	f ✓
fa	1	a	a ✓
fai	2	i	i ✓
faiz	3	z	z ✓
	4	X	

$O(n \lg N)$