

① I'll keep on checking in the every substring which has abcd

✓
a b a a c d ✓
6

① posⁿ does not matter

b a b c d 5 ✓

② freq does not matter

b c a d b 5 ⇒ shortest & valid

We related a dummy HM purpose

set

① I want to get the count
of unique / distinct
characters

length of Set $\Rightarrow K$

length of HM $\Rightarrow K$

One more NM to iterate on the
string

At any point you will find K
distinct characters

every time you will move
i when we have all the
distinct char

Purpose \Rightarrow We want the
smallest string

All the characters of t should
be there in a substring

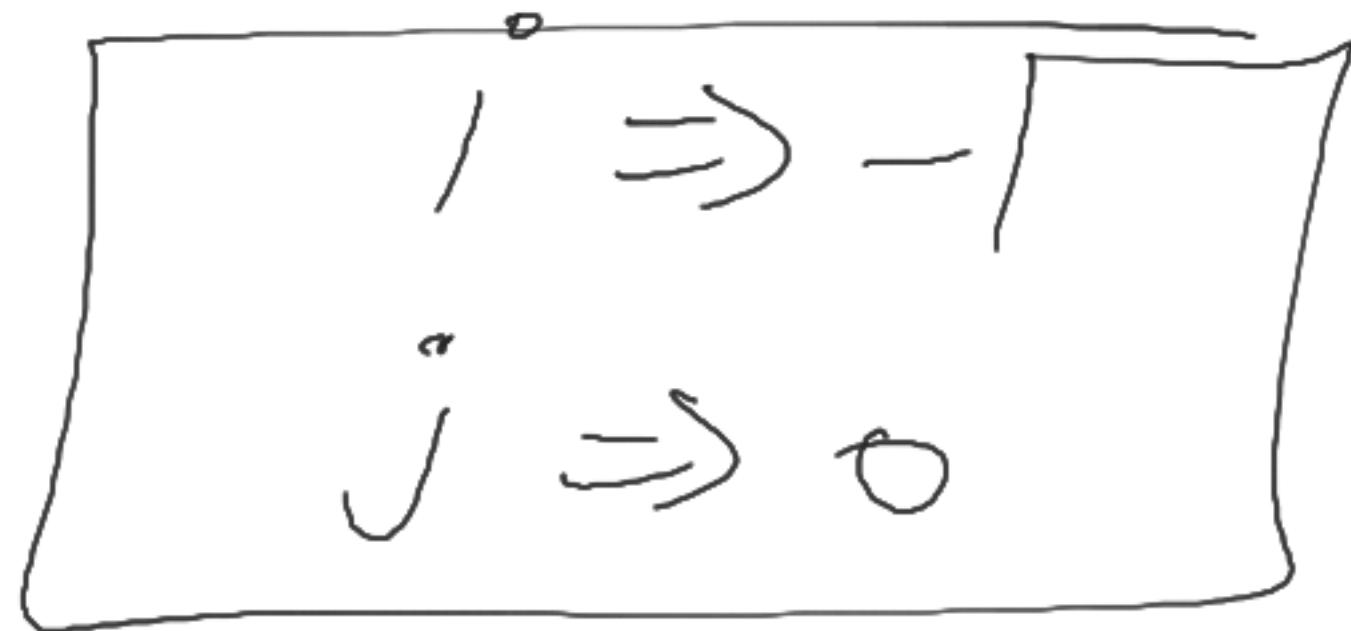
of S , out of all following the
upper cond" I want the
smallest of all

BRUTE

- ① Find all the substrings of s
- ② Take the substring which has
all characters of t
- ③ Take the smallest string
satisfying condⁿ ②

OPTIMAL

- ① MAKE A NFA of string t
- ② Iter on string with 2 pointers
 i, j



③ Go on adding the j^{th} char
until we have all the
req All char of t chars

④ Move your i pointer until
it does not satisfy all the
chars of t

ADDBECODE BLANK

i

j

ABC

ansLen = 6

ans = ADDBEC

D O B E

A

i j

\Rightarrow

$(2 \times N)^x$ 26

$2 \times N^{12.8} \approx 10^7$

SZ of VM will go to 26

But 26 is there what we have
only WC or only LC

Hand them 11 by my MP. Sig
of FR can go to 128

(N^2) Strings

Avg \Rightarrow

N chars

Avg $O(N^3)$

OPT



You take 2 FA,

Brute
boolean check array
like
eat tea ate tan nat but

AL
<eat, tea, ate>

<tan, nat>

<but>

int n \Rightarrow str's length

boolean check = new boolean[n]

Mark ~~at~~ Top F with index

Optimal

~~eat, t ea, ate,~~

~~ae t, tae~~

~~sort all the stones~~

~~len 0~~

~~sorted~~

~~get get get~~

get, get

1N Jone

convert to char Array

then sort

then convert to String

N.M < ~~Str~~ Key, Value >

Sorted Str

H.M. [Strum] AL

aet

[ate, tea, eat]

H.M < Key, Value > a ~~ke~~
 || tea
 is unique AL eat

get - { ate
 tea
 eat } A program
 having same
 sorted key

M.M of String & AL

MM < String, AL >