

Sanket Singh

→ what & why around CP

→ How to get started with CP? & how much time will it take? ?

→ What are the tools reqd to start with CP

→ Sources to learn & grow in CP

→ Best lang nge

→ CP \longleftrightarrow Dev

CP \longleftrightarrow Interview

→ OOPs useful for CP

google, spring, TR, Codewars
Discrete Math, Dn20, etc

→ DBMS \rightarrow Index \rightarrow B⁺ trees

→ fee econm \rightarrow routy \rightarrow graph

→ g maps \rightarrow graph

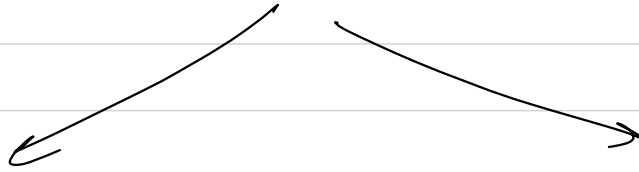
→ MC \rightarrow hcr, DL

(Circle) \rightarrow

why to do competitive programming??

- ① It's fun
- ② Gives you recognition
- ③ Helps you solve complex problems
- ④ Prepares you well for coding Interviews
- ⑤ It makes you a desirable candidate for big MNCs

CP



Online live
contest



get ranks
get stars
get badges
get colors

Offline practice
questions



to do practices
to brush up topics & skills
to learn new topics

Codechef

Codeforces

Atcoder

Kattis

Hackerrank

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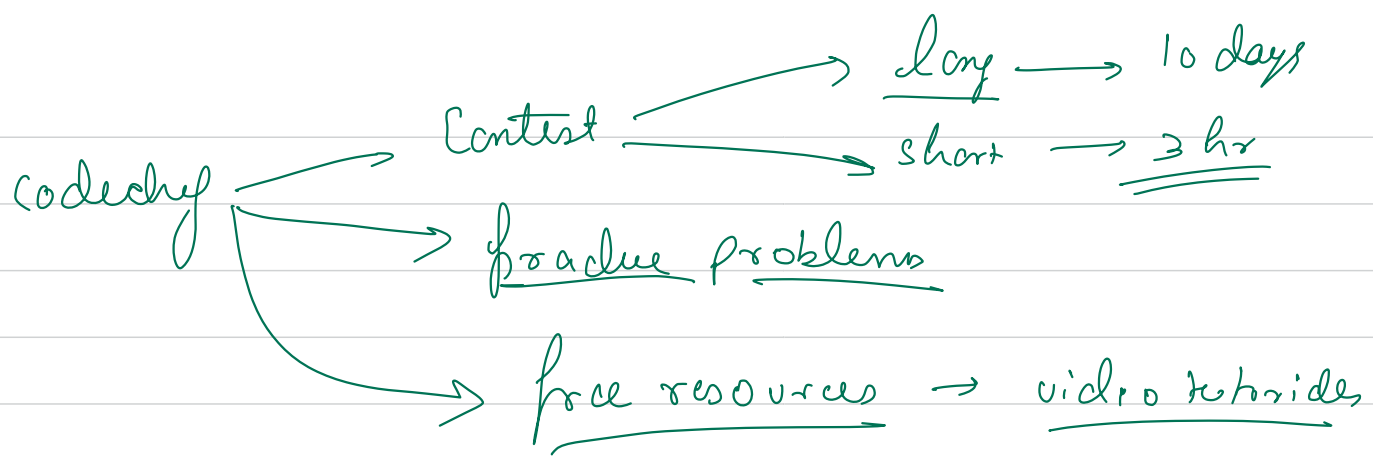
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SPOT

no online live
contest



- a) 10^{10}
- b) 10^{100}
- c) 10^8
- d) 10

- a) 3×10^8
- b) 10^{29}
- c) 10^{100}
- d) None

$a_1, a_2, a_3, \dots, a_n$

103

L_i R_i

$\text{gcd}(1, L_i-1, R_i+1, n)$

$\text{gcd}(\text{gcd}(1, L_i-1), \text{gcd}(R_i+1, n))$

precompute

$a_1, a_2, a_3, \dots, a_n$

$\text{gcd}(a_1, a_2, a_3, a_4) = \text{gcd}(\text{gcd}(a_1, a_2, a_3), a_4)$

$$\gcd(a_1, a_2, a_3, a_4, \dots, a_i)$$

$$= \gcd(\underbrace{\gcd(a_1, a_2, a_3, \dots, a_{i-1})}, a_i)$$

$$\gcd(a_1, a_2, a_3, a_4, \dots, a_i)$$

$$= \gcd(a_1, \gcd(a_2, a_3, a_4, \dots, a_i))$$

$$\gcd(\underbrace{\gcd(L_{i-1}), \gcd(R_{i+1})})$$

a) $O(nq)$

b) $O(n)$

c) $O(n \log m)$

d) None

precomputation

$q \log \max(\dots)$

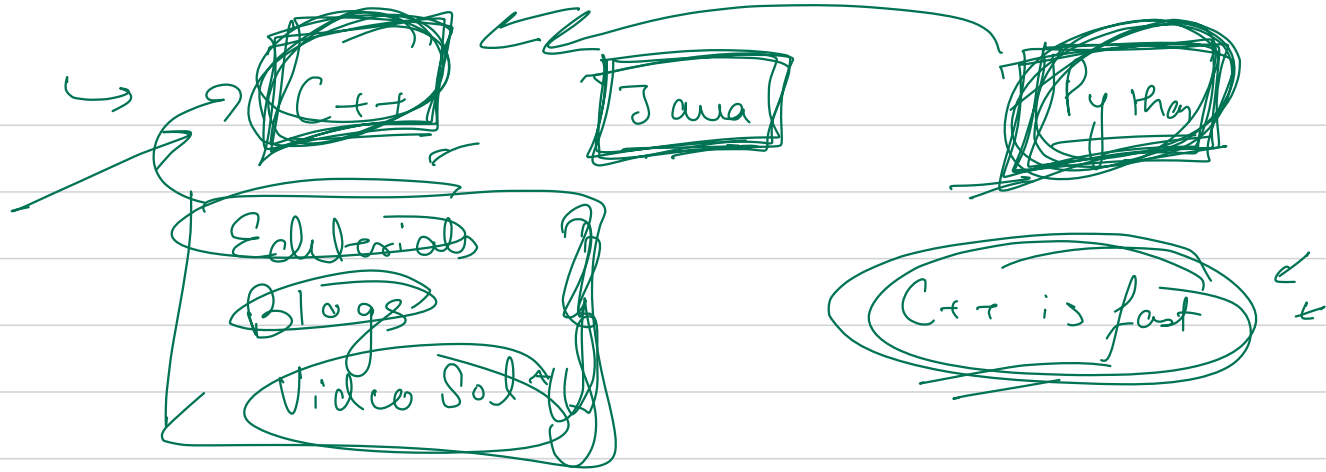
for process
a query

are gcd in each
query

$n \log m$

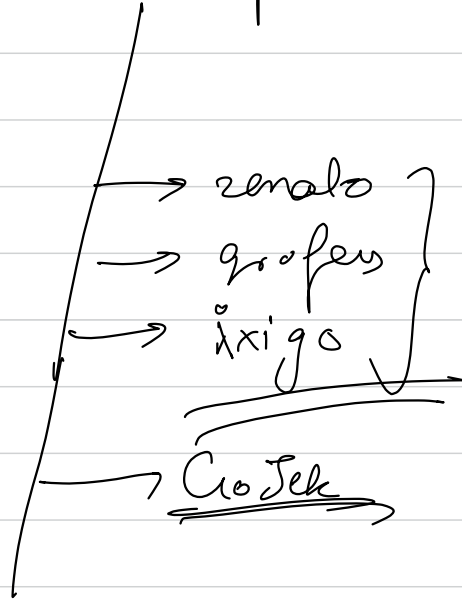
$O(\log)$

10³
20-25



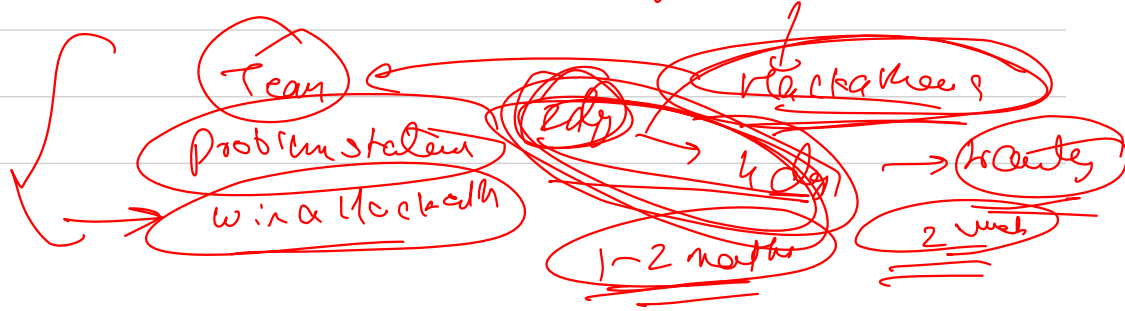
90% companies → ds/algo

10% companies → few things in ds/algo but major things in dev



focus more on cp

& some knowledge in Dev



Interview Que DSA are easier than CP problem

↓
cheatcode