3 ★ aditya_1105

Home Practice Compete Learn More

Home > Learn CP > Level up from 3 to 4 stars

Rise from 3 to 4 stars

REGISTER

6 PM to 8 PM | 1 Mar to 20 Mar | Tue-Thur-Sat

Get mentored to Level up from 3 to 4 stars. Solve 3-5 problems per day with your CodeChef mentor, during the camp and improve your understanding of concepts. At the end of the camp, you will be able to level up in CodeChef.

Pre Requisites

- This camp is for 3-star coders on CodeChef
- Learners should have participated in atleast 20 rated Contests on CodeChef
- You need to know C++ or Python to attend the camp.
- Please do attend the session via a laptop or desktop and solve problems with the educator. Solving and practicing problems is very crucial in building your skills.

Day 1

- What is Graph?
- Graph terminologies.
- Special graphs: Bipartite, Trees, etc.
- DFS and its applications: bipartite checking, sum of subtree, etc.
- BFS and its applications: Shortest path in unweighted graph, etc.
- Problems:
    - Even Edges EVEDG
    - Chef and collection of stamps CHSTAMP
    - Centeroid CENTREE
    - Lost Graph LSTGRPH

Day 2

- What does shortest path mean.
- Applications of shortest path.
- Dijkstra
- Bellman Ford

- Floyd warshall
- Pros and cons of each of the algorithms
- Problems.
    - Save Patient PAC6
    - Minimum Cost Walk MINWALK
    - Short in Average AVGSHORT

Day 3

- DSU
- What is an MST.
- Prims algorithm
- Kruskals algorithm
- Problems.
    - Coal Scam COALSCAM
    - MST Queries MSTQS
    - Rooted Minimum Spanning Tree ROOTMST

Day 4

- Intro to tree dp with a problem
- What is LCA
- Calculating LCA in nlogn using tree dp (binary lifting)
- Problems.
    - Nuttela Path Unit ENOC1
    - Dual Distance DUALDIST
    - Lowest Common Ancestor TALCA
    - Children Trips TRIPS

Day 5

- Primality check in sqrtn.
- Sieve and its applications (calculating any multiplicative function)
- Factorization using sieve
- Euler totient function
- Intro to modular arithmetic
- Modular inversion using fermats little theorem or Euler's theorem
- Euclid's algorithm for calculating GCD
- Problems.
    - Charlie and Prime Numbers CDQU1

- Counting Tuples TUPCOUNT
- Cute Chef Gift COPAR
- Prime divisors PRMDIV
- Equalize STABLE

Day 6

- Some standard dp problems: LCS, LIS, Knapsack
- Problems
  - K-Subarrays CHESUB
  - Subarray LCM SUBLCM
  - Save The Princess SHIRO
  - Swapping SFRV

Day 7

- Problems
  - 2 Two Paths - INOI 2018 TWOPATHS
  - Periodic Strings INOI1502

- Little Elephant and T-Shirts TSHIRTS
- Cards, bags and coins ANUCBC

Important Links of our resources & information -

Programming Tools

Online IDE

Upcoming Coding Contests

CodeChef Certifications

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Problem Setting

Learning Resources

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