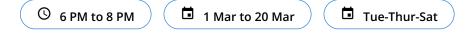


Home Practice Compete Learn More

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Rise from 3 to 4 stars

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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.

- 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 <u>EVEDG</u>
 - Chef and collection of stamps <u>CHSTAMP</u>
 - Centeroid <u>CENTREE</u>
 - Lost Graph <u>LSTGRPH</u>

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 <u>PAC6</u>
 - Minimum Cost Walk MINWALK
 - Short in Average <u>AVGSHORT</u>

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

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 <u>ENOC1</u>
 - Dual Distance <u>DUALDIST</u>
 - Lowest Common Ancestor <u>TALCA</u>
 - Children Trips TRIPS

- 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 <u>CDQU1</u>

- Counting Tuples <u>TUPCOUNT</u>
- Cute Chef Gift <u>COPAR</u>
- Prime divisors <u>PRMDIV</u>
- Equalize <u>STABLE</u>

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

Day 7

- Problems
 - 2 Two Paths INOI 2018 <u>TWOPATHS</u>
 - Periodic Strings <u>INOI1502</u>

- Little Elephant and T-Shirts <u>TSHIRTS</u>
- Cards, bags and coins <u>ANUCBC</u>

Important Links of our resources & information -

Programming Tools Learning Resources

Online IDE Getting Started

Upcoming Coding Contests Practice Problems

CodeChef Certifications Prepare for DSA Certification

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