Competitive Programming

A brief intro to various contests

Agenda

- A glimpse into Competitive Programming
- Why try competitive programming?
- Various contests you should participate in

Why CP is important?

- Helps in improving your observation and problem solving skills.
- Puts more weight to your Resume.
- Improves speed - important in coding rounds.

Popular Coding Challenges

ICPC - International Collegiate Programming Contest

- Organised annually
- Has three rounds - Qualification round, Regionals, and World Finals.
- Team contests, 3 members required (of the same college).
- Each round has 9-10 questions to be solved in the required in the given time.
- 1/0 scoring system, no partial scoring, penalty for wrong submissions.

Resources:

- https://icpc.global/worldfinals/problems

Meta HackerCup

- Organised by Meta during Aug-Oct.
- Has qualification round followed by 3 rounds.
- Each round is an elimination round, based on number of points/rank.

Resources:

- https://www.facebook.com/codingcompetitions/hacker-cup

Google CodeJam

- Organised by Google annually.
- Has Qualification round -> Round 1(A/B/C) -> Round 2 -> Round 3.
- Each round has 3-4 questions.
- Each round is qualification round.
- Round 1 is conducted thrice, you will be qualified if you reach the cut-off rank in any of the three rounds.

  Resources:

- https://codingcompetitions.withgoogle.com/codejam
- https://codingcompetitions.withgoogle.com/codejam/archive

Google Kickstart

- Organised by Google monthly.
- Beginner-friendly contest.
- Single round, 3-4 questions to be solved in 3 hours.

Resources

- https://codingcompetitions.withgoogle.com/kickstart
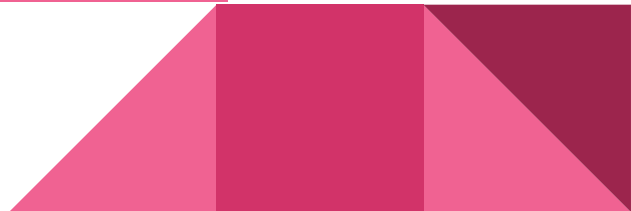- https://codingcompetitions.withgoogle.com/kickstart/archive

Google HashCode

- A Heuristic contest.
- Organised by Google annually.
- Team contest, two rounds: online qualifiers and onsite world finals.
- Single problem statement, points given on the basis of how optimal the solution is.

Resources

- https://codingcompetitions.withgoogle.com/hashcode/
- https://codingcompetitions.withgoogle.com/hashcode/archive

Codechef Snackdown

- Organised annually
- Participate in pairs
- Has 4 round - Qualification, Round 1(A/B/C), Pre-Elimination, Elimination
- 1/0 scoring, 10 min penalty for each wrong submission.
- Ranking based on no. of problems solved with ties broken by total time taken.

Resources

- https://cses.fi/problemset/
- https://earthshakira.github.io/a2oj-clientside/server/
- http://www.usaco.org/index.php?page=resources
- https://atcoder.jp/
- https://cp-algorithms.com/
- https://codeforces.com/
- https://www.codechef.com/