

Programming Challenges

Event Overview

- I. Description
 - A. Competitors will write algorithmic or heuristic code to solve multiple short tasks on the Hackerrank platform (hackerrank.com/cssa) . Coding languages such as C++, Java, Python, JavaScript, Scala, and Swift are allowed.
- II. Participants
 - A. Competitors must work individually.
- III. Format
 - A. Competitors will solve three tasks, each of which has five test cases. Each individual test case will have different weights and will affect the score respectively.
- IV. Materials
 - A. Competitors are allowed to create a binder (online or physical) which they can use during the test.
- V. Scoring
 - A. Competitors are graded based on their accuracy to solve all test cases. If a tie occurs, individuals will be graded on their time taken to solve the first three tasks.

Event Topics

- I. Competitors may be tested on and asked to solve tasks involving any of the following topics and any subtopics falling under them:
 - A. Complete Search
 - B. Sorting & Sets
 - C. Prefix Sums
 - D. Sorting & Searching
 - E. Graphs
 - F. Dynamic Programming
 - G. Trees
 - H. Miscellaneous Topics

Event Resources

- [USACO Guide](#)
 - Contains algorithms and exercises for specific algorithms. Levels are divided into bronze, silver, gold, and platinum. Platinum is the highest level of difficulty on this site.
- [Book on Competitive Programming](#)

- Contains basic introduction on competitive programming, important data structures and libraries, problem solving paradigms, graphs, mathematics, string processing, and geometry.
- [Understanding programming languages](#)
 - Great resource for beginners who are entering the sector of competitive programming and C++
- [Algorithms List & Explanations, GeeksforGeeks](#)
 - Covers greedy algorithms, dynamic programming, geometric algorithms, mathematical algorithms, bit algorithms, etc.