Introduction

Who We Are

The USA Computing Olympiad fosters pre-college computing through training, contests, and international competitions. A handful of coaches organizes these features and also chaperone students who represent the USA in international venues. Find a wealth of details and other information at the USACO Web Site.

Specific USACO Goals

Specific goals of the USACO include:

- Train USA team to win multiple gold medals at the next IOI.
- Engage USA students in learning and growing to achieve the first goal
- Conduct an eight day USA Olympiad for the best 15 USA students in order to identify the final four USA representatives for international competition.

About Advanced Training

This website includes training for students who typically have a year or two of programming experience and also have interest in 'algorithmic programming'. The techniques taught and drilled here are **difficult**. Expect to spend anywhere from a few minutes to **several hours per problem** if you are an excellent programmer. Beginners will not enjoy these problems, as they require extensive practice and experience. Someday we hope to have an additional lower-level training site for those just beginning in programming.

About This Web Site

This web site is designed to accomplish the goals above.

- It's password protected.
- All functions are available 24 hours/day with mechanical responses and tracking so anyone can learn at their own pace and with no pressure.
- Instructional text, problems, and analyses are concise (in order to minimize time spent reading vs. programming)
- Over 100 contest-style problems are complemented by almost two dozen instructional texts on every type of problem from the programming contest domain.
- The problems are interspersed throughout the sections based more on difficulty (easier ones first) than on "problem type".
- A web-based sequencing system guides students through ever more challenging problems and texts.
- Detailed explanations of algorithms and problems in standard IOI format to familiarize competitors with international competitive environments and challenges
- Tasks require programs to be submitted to an automatic grading system for

evaluation against a broad spectrum of test cases.
- The site offers quick turnaround and feedback for problem grading (usually just a few seconds).
- Analysis pages explicate details of problem solutions and show a well-coded and well-commented solution.

Don't be fooled by the first few problems. Subsequent problems are ever more challenging.

How Long Does This Take?

Different people will take different spans of time to move through this material, especially the 100+ programming challenges. Some students already have years and years of experience, perhaps even at the international level. Others are just beginning to compete. Any rate much lower than one problem per two weeks is probably not high enough to achieve a rewarding training effect. It is anticipated some of the best students will average one problem or more per day for the first two sections (slower after that).

To get the most out of this web site, you should solve the problems in order, understand each paragraph of the instructional texts, and digest the analyses to see how they apply to your solutions. Feel free to improve your solution after you read the analysis. Furthermore, feel free to send us new or better analyses if you have them.

Administrivia

A few items to ease your use of the site:

- Use the "Back to USACO Gateway" link to observe updates properly
- Use the "Submit a Comment or Question" link for quick communication to coaches
- Watch "NEWS" on the left column for late breaking news

Back to USACO Training Gateway | Comment or Question