#Toturial #text

# TEXT Contest Problem Types

Programming Contest Problem Types

Hal Burch conducted an analysis over spring break of 1999 and made an amazing discovery: there are only 16 types of programming contest problems! Furthermore, the top several comprise almost 80% of the problems seen at the IOI. Here they are:

Dynamic Programming

Greedy

Complete Search

Flood Fill

Shortest Path

Recursive Search Techniques

Minimum Spanning Tree

Knapsack

Computational Geometry

Network Flow

Eulerian Path

Two-Dimensional Convex Hull

BigNums

Heuristic Search

Approximate Search

Ad Hoc Problems

The most challenging problems are Combination Problems which involve a loop (combinations, subsets, etc.) around one of the above algorithms - or even a loop of one algorithm with another inside it. These seem extraordinarily tricky to get right, even though conceptually they are ``obvious''.

If you can master solving just 40% of these problem types, you can almost guarantee a silver medal at the IOI. Mastering 80% moves you into the gold range almost for sure. Of course, `mastery' is a tough nut to crack! We'll be supplying a plethora of problems so that you can hone your skills in the quest for international fame.

// please write your name in last of the translation for credit //