How to Not Throw Your Contest

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There is always a story of why I got unlucky…

- “I would get x if I debugged in time”
- “I spent most of the contest trying to solve the hardest problem”
- “I found a solution 15 minutes before the contest end”

…unless I won, in which case everything went according to plan

What actually goes wrong?

- Panic, tunnel vision, tilt
- Lack of control

And suddenly — you're in a place where you need luck to get out.

When you’re lucky — you don’t learn

When everything barely works out, it's easy to feel like it was the right approach. You leave the contest with points — but no idea why it worked.

So what even is contest strategy?

Not a secret formula. Not a guaranteed win.

Just trying to make good decisions — under pressure — consistently.

When is that useful?

When the contest is easy — you can only lose.

When the contest is hard — you can only win

Easy: one mistake and you're out.

Hard: progress matters more than brilliance.

How subtasks changed OI

10-15 years ago:

- n ≤ 2000 — 20 points
- No additional constraints - 80 points

treated as a consolation prize / tiebreaker

now:

- 4-8 subtasks per problem
- often measuring real progress toward full solution
- not always possible to implement all in time

One of the best blogs on OI strategy

My winning theory in IOI 2018 & 2019 — Why I won 2 golds in IOI

By E869120, 6 years ago,

> Dear Codeforces community.
> According to IOI 2019 Results, I got the 25th place and got successful gold medals twice in a row.
> Although it was pretty close to the gold-medal border (only 6.14pts / 600 difference) and it was lower performance than IOI 2018, which I participated when I was orange in Codeforces, I had many chances to get more points in this IOI, even for top 10. Since there are not so many people who have got two gold medals in IOI (and there were many requests like "I want E869120 to talk about how to get gold in IOI" like this comment and this comment). I want to write something about IOI, which may be useful for people who will participate in IOI next year and also some years later.

Year ▾	Country	Tasks						Score		Rank		Medal
								Abs.	Rel.	Abs.	Rel.	
2019	Japan	100	40	72	51.89	100	57	420.89	70.15%	25/327	92.66%	Gold
2018	Japan 2	97	37	49	53	90	36	362	60.33%			Gold*

What you should not base your decisions on…

- Mainly, if the scoring is very rough (e.g. Subtask #1: 5pts, Subtask #2: 10pts, Subtask #3: 35pts, Subtask #4: 50pts), the problem (full solution) is easy. It is true for IOI 2018 Combo, IOI 2015 Boxes with Souvenirs, IOI 2019 Shoes. Their subtasks' scores are mostly multiple of 5. Conversely, if the scoring is not very rough, the problem is not so easy.

Most important takeaway

(ii) Suppose you solved all the subtasks which 45 or more people got in each year's IOI

Year	Day1 P1	Day1 P2	Day1 P3	Day2 P1	Day2 P2	Day2 P3	Total Score	Final Rank	Medal
IOI 2019	100	40	72	71	100	24	407	31/327	7 pts to Gold
IOI 2018	100	37	49	86	51	36	359	19/335	Gold :)
IOI 2017	83	100	27	97	51	50	408	10/304	Gold :)
IOI 2016	100	34	31	100	100	60	425	22/308	Gold :)

You only need to get the “low hanging fruits” - on any level

Trivial problems can kill your run

Losing 50+ points on a problem everyone around you in standings solved force you to perform perfectly everywhere else

The basic strategy

1. spend 40-60 minutes thinking about every problem
2. implement everything that you solved

Pros:

- Easy to execute
- Hard to make a critical mistake

Cons:

- Requires quick implementation skills
- Not very flexible

Universal rule for all the strategies

- **TIME** is the most important **resource** during the contest.
- Everything - thinking, debugging, implementing - costs time.

Sounds obvious - but checking what’s actually happening every 15–30 minutes can make a huge difference.

My contest strategy

- Initially spend 10 minutes on each problem understanding what it’s about
- Try solving and implementing the easy problem quickly
- Switch regularly between problems
- After 1-1.5h have a good understanding of which subtasks need to be solved (both minimum and maximum strategy)
- Start implementing subtasks as late as possible

Competing for top spots is a bit different

- When qualifying to IOI / reaching for top 5 you sometimes need to get lucky
- You compete against other people instead of the problems

My best contest experience

IOI 2024 day 2:

- After day 1 40-50 point lead to top5, 10 points difference between 1st and 3rd
- min goal: keep top10, max goal: win the contest

First 2 hours of the contest

- Read all the problems
- One of them was easier - solved after 1:40
- After 2h I had 100, 0, 0 points. Interactive problem easy for 64 points. Last problem very hard

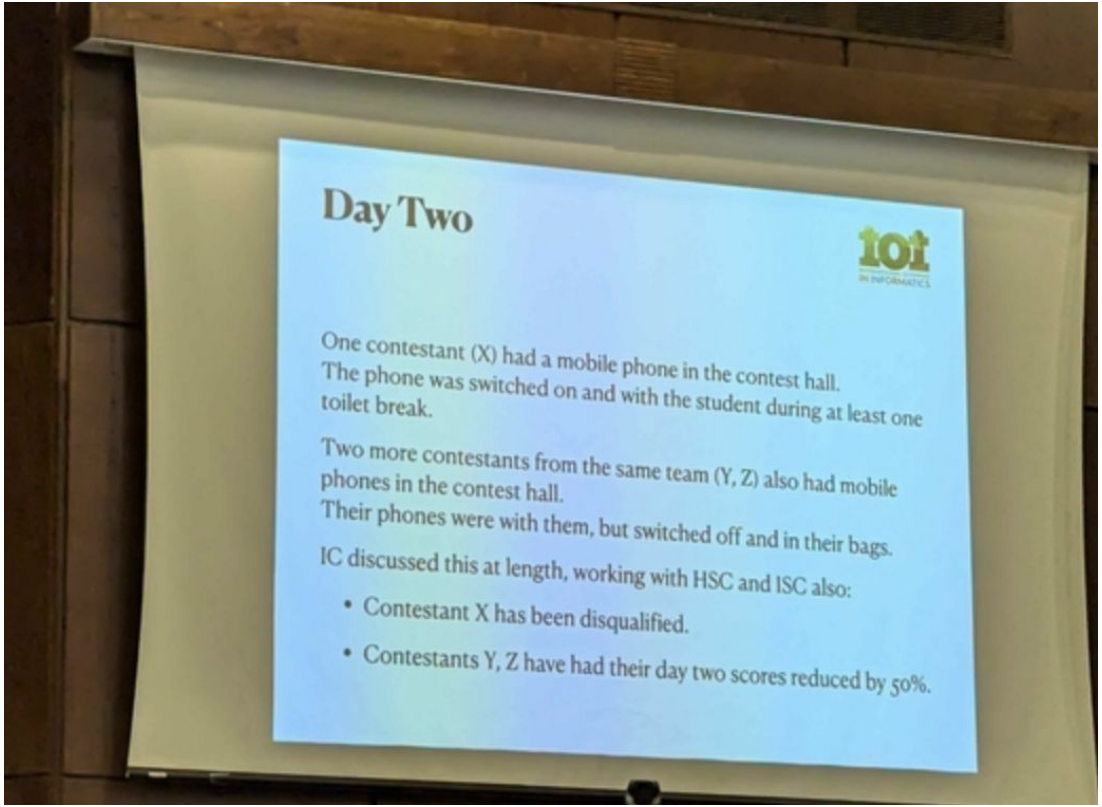
Goal for the next 3h: spend more time on p3 than other people, I can only lose 36 points on the interactive.

Next 3 hours

- Failed to solve the problem, ended up with 3 points on it
- Last 15 minutes I tried optimizing interactive, got +18 points right before end
- Got 3rd place

Further optimizations

Further optimizations



Worth keeping in mind

Strategy isn’t about making perfect choices.

It’s about making fewer bad ones — and knowing why.