BOI Newspaper

Up to the finish line!

Dear reader, you might not have recognized me yesterday in black and white. I know... It turns out that printing in colour isn't possible on Sunday. But here I am, colourful again, full of little puzzles, insights and chats, as usual.

The first competition day left some contestants very happy. Konrad Paluszek from Poland took the lead, solving all three tasks perfectly. But the winner is not clear until the end of the second round. And you, dear reader, can follow it on-line, at http://ranking.lmio.lt/.

After the serious part came the time to relax, and couple dozens contestants went to participate in the sport activities. To team guides' surprise, the *least* popular sport among contestants was... chess. And the most popular? Well, football. Does that mean that geeks are normal people?

The committee had another calm day. We said that yesterday preparations finished early, but today was embarrassing... they finished at 10 PM. The members of Scientific Committee were clearly confused, and just stayed up anyway doing nothing.

But let's not hold you any longer. Turn the page and see what contestants and team leaders think about day one!

Happy Birthday!

It's a very special day! Three guys taking part in BOI have their birthday today! From all of us, HAPPY BIRTHDAY!!! Have a good one! May luck and joy be with you forever!

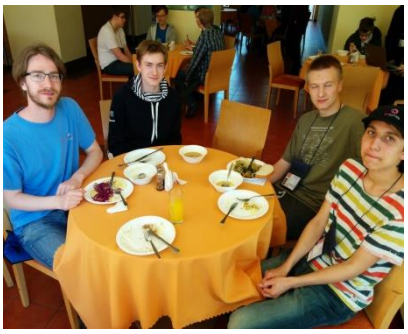
Mikael Stefan Niklas Klages

Håkon Flatval

Martynas Budriūnas

Q & A

Team Norway



What do you think about today?

- These were pretty hard tasks compared to what we have in Norway National Olympiad, but it went OK.
- I tried to do the Sequence, it didn't go very well. I tried to do some bruteforce, but my program became too complex, I just had to go the other tasks.

Which task was the easiest?

- Maybe Friends, as you get fairly many points for the brute-force.

Which task was the hardest?

- I don't know. I really liked all the tasks, but they were very hard.

Team leaders, what can you do to make Norwegian team stronger?

- That's the big question we've been trying to work on. I think we need to get a bit more training material out.

Team Finland

How did you do today?

- Badly. Well, only 150 points. I spent three hours on task Friends. I misread it and couldn't get the program right.
- I started with Friends and spent nearly whole contest on it. When I got it right, there were only 2 minutes till the end. I got full points for it, but I didn't get almost any points for other tasks.

Which was the easiest task of the day?

- For me it was the task Friends. I solved it in 50 minutes.

Team Poland

Why the Poland team is always so strong?

- We have a very good education system, there are several camps in the year and we are regularly prepared. Also, Poland is a big country, and more people means more computer programmers.

You got the full score. In which order did you solve the tasks?

- I started with Friends and moved to Cop and Robber. I usually read through all of the tasks, but if I see that it's going to take me 5 minutes, I go ahead and code it up.

Is this the team that will go to IOI?

- No. 12-graders have their exams during BOI, so they don't come to this competition. We're the best students who are not 12-graders.

Ahto, Estonia TL

How do you feel about today?

- I am very happy with the 1st day results. If contestants keep up the same way they did yesterday, we'll have 1 gold, 1 silver and 1 bronze.

How do you prepare the team for BOI?

- In Estonia, we have a pretty long selection process. First, there is a national competition. According to its results we invite 20 BOI candidates to the training camp. We have two training camps before BOI and one before IOI. We want to have some time to prepare for BOI, thus the national competition is usually held in the middle of the February. It's the earliest Olympiad in Estonia – all other finals are held in March.

Chat

There're people without whom BOI would not simply be possible. Vytautas Gruslys, the chair of SC, is one of them. Working tirelessly with his colleagues, he is the one to make sure that the competition runs smoothly from its start to the end..

What is it like to be a chair of the Scientific Committee?
It's hard. The difficulty is that there're so many ways of how a task can go wrong, and it's difficult to make sure that everything is fine. But on the other hand, it's very fun as well.

Not everyone realises what SC does. Could you tell more about your work?
Of course! We usually start by creating task ideas for the competition, but I'd say most of our time is devoted to preparing them to be ready for contestants. And that involves creating a lot of tests, then trying to make sure that all of them are correct. We have to do it to painful extent sometimes. For 8 competition tasks of this BOI, SC prepared 85 solutions in total. Every little detail has to be checked. It's quite a rigorous procedure.

You've participated in BOI before. What was it like?
I've participated in three BOIs. I won three medals, but that was a long time ago, in 2006-2008. I have to admit that even though I'm proud of that, tasks now are much more complicated.

You've also won an absolute first place in 2008!
Yea, that's true. But tasks were well-suited for me.

It's always a little bit of luck and an awful lot of preparation! What do you think about the 1st competition day? Are you happy with the distribution of the points?
I think the distribution is OK. There's a small issue with there being a few subtasks, and that means some of the contestants scored the same amount of points. But we hope the 2nd competition day will spread the results more evenly.

So, is there a story behind funny numbers in the subtasks of the 2nd day?
They're not random numbers, I ensure you. We wanted to make some of the subtasks more important than the others, because their difficulty differs. And to ensure that there're no collisions and the more difficult subtask is worth more, we changed the distribution of points to the one we got. It was surprisingly difficult to avoid collisions.

In your opinion, who's gonna win tomorrow?
I hope that Scientific Committee in a sense that everything will run smoothly, and the competitors in a sense that they're happy and they've enjoyed their stay here.

After the competition...

You've got problems...

I can define any positive integer in under eleven words...

Consider the following proof that any positive integer can be defined in under eleven words. What's dodgy about it?

Proof:
Start defining positive integers from one by naming them in order: one, two, three, four, etc.. Suppose that after repeating this process for some time, some first number k is reached which can't be defined in under eleven words. However, if this the case, we can define k as "the first positive integer not definable in under eleven words". A contradiction – an undefinable number k is definable as its definition contains only ten words. Hence, such undefinable k can't exist. Hence, all positive integers can be defined in under eleven words.

Is Keno a fair game?

In the game of Keno, from the numbers 1-80, a player chooses three, and makes a $1 bet. Then twenty numbers are drawn.

- If all three of his numbers are among the twenty, he is paid $42 (gain of $41).
- If two of his numbers are among the twenty, he is paid $1 (break even).
- If fewer than two of his numbers are among the twenty, he loses.

What are the chances of winning?
How can Keno be made a fair game?

Fun Time :D