

# IOI 2018 Reflections

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char author[] = "Carl Joshua Quines";  
char date[] = "Fri Sep 21 21:53:20 2018";
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## 1 Introduction

This is a report on my participation in the 2018 International Olympiad in Informatics, held in Tsukuba, Ibaraki, Japan. It was held from September 1 to 8.

As is traditional in these reports, I will disclaim any accuracy with regards to the order of events, the specifics of conversations, who I talked to at what times, and proper use of tenses. As is also traditional, I will begin with results.

#	Name	C	S	W	D	H	M	$\Sigma$	Medal
PHL-1	Dan Alden Baterisna	100	17	49	39	51	36	292	Silver
PHL-2	Franz Louis Cesista	30	17	49	16	5	19	136	
PHL-3	Carl Joshua Quines	100	5	49	0	0	19	173	
PHL-4	Andrew Ting	10	11	0	6	0	19	46	

The Philippines scored one silver medal this year, slightly worse than last year's performance of one silver and one bronze medal. It is good to note that our silver medalist has two more years of participation in the IOI. The rest of the team has graduated high school.

I performed just shy of a bronze medal; in fact, had I handled Day 2 better I could have won silver.

## 2 Report

### 2.1 September 1: Arrival

NAIA doesn't let people in without inspecting their itineraries. I had forgotten mine, so I had to write it on a sheet of paper. The guard probably thought it was sketchy.

I see Dan and his family there waiting. I sit with Dan and we talk about summer and school. He greets me for my birthday and gives me an array.<sup>1</sup> I hear that Andrew and his family have already made it to the gate.

Vernon and Franz arrive soon. Vernon hands out our shirts and jackets for the year. Kevin points out a typo: *olympaid* was on the jacket instead of *olympiad*.

After a very long wait at check-in, and very long lines for immigration and security, I get separated with my group. Hence, I missed my first flight. Kevin and Lyndzy were left behind too, and we had a fun adventure getting our luggage back and rebooked a flight that arrives at Tokyo at 8 PM or so.

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<sup>1</sup>A Codeforces meme; searching `codeforces array birthday` gives a bunch of uninspired stories for problems involving arrays.

It was actually pretty instructive. First, we had to go through immigration backwards, because the system has recorded us leaving the country when we didn't. We learned luggage isn't loaded on to the plane if the passenger isn't on it – ideally, at least, but Kevin and Lyndzy's baggage were loaded.

We ate lunch at Kenny Rogers, and Kevin brings up lots of problems to talk about: the existence of finite fields, and Virus from the distributed GCJ. We also discuss the IMO in contrast to the IOI. Eventually we managed to check in and recover my suitcase, so we immediately head airside.

The flight is long and boring. Tokyo is impressive from the night sky: lights arranged neater than chocolates in a box; brilliant, foreign, sharp typography; warm electric glowing, piercing the black cold. We had to stay in the sky for a while due to air traffic, and I didn't mind.

At Narita, we again were tossed-up looking for Kevin and Lyndzy's lost baggage. We found it left alone next to the luggage carousel. I find out from Dan that our dorm is at KEK: students were divided into two dorms that IOI, and KEK is smaller than NITS.

The bus arrived and it was a long bus ride to Tsukuba: about an hour from Tokyo. We were shown a bunch of advertisements from IOI sponsors. Then, we see Ia, delivering a message to the IOI participants. I cringe. Kevin and Lyndzy just laugh.

At KEK, I take off my shoes and put them in a shoe box, and retrieve slippers. Someone meets me and orients me to the dormitory. I get to my room<sup>2</sup> and drop my stuff, and catch up with everyone else, who were in Andrew's room.

We talk about missing our flight. They share some memes, like the “can take advantage of the power supply” they saw somewhere in the airport.



Figure 1: Can take advantage of the power supply.

Dan and Franz enthusiastically talk about the giveaways and we plan what time we'll all wake each other up tomorrow. I go back to my room, unpack, and change. I begin writing this. I set my alarm, turn out the lights, and go to sleep.

<sup>2</sup>Numbered 1-314, for pi!

## 2.2 September 2: Opening

We take the 6:40 AM bus to breakfast, as planned. Being at KEK, we had to take a bus to NITS to eat breakfast, and to ride the bus all your team had to be present. And then after dinner, we had to take a bus to go back to KEK.

After breakfast, we then take a bus to TICC, where the opening ceremonies would be held. We meet with our guide, Coleen, and deposit our things with her. Dan introduces me as Carl, to my irritation. She tells us that Princess Kako will be there, which is why security would be pretty strict.

I show a cheap card trick I learned from Dylan at PROMYS to several people. I talk to Joey from Canada, ZS from Malaysia and William from USA. Dan and I see Thanadol from Thailand, who we met on the IOI server on Discord. We wait quite a bit for the opening ceremonies to start, and play some card games to pass the time.



Figure 2: Off-focus picture of us during the opening!

The opening ceremonies started with a projection of Ia greeting us in song and dance. Ia introduced her sister, One. They welcomed the contestants and performed the theme song of the IOI 2018: Euphoria.

Each of the important guests gave speeches. A memorable one was of Greg Lee, who advised us to make friends. Then the countries were called one-by-one, with a live camera pointing at each team. Croatia threw hats to the nearby audience, and Mexico had very big hats. Lots of countries had raised flags, and delegations with less than four contestants got more applause.

Finally, we had an impressive closing performance from a nearby high school's dance troupe. We took a bunch of pictures for the sponsors before doing so.<sup>3</sup>

We eat lunch downstairs. I introduce the card game ERS, which I picked up at PROMYS. Félix, from Spain, walks up to me, and we finally have a conversation. He and I first met on AoPS. I introduce him to the team and show him the cheap card trick.

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<sup>3</sup>The chronology here is wrong. I somehow forgot about the orientation session, held around this time, in my original draft. I'm choosing to keep it omitted, because nothing remarkable happened.



Figure 3: A staged picture. For sponsors.

We talked some more to people, and tried to find people from the Discord again. We were then called to take a group picture with everyone, at the stairs. These are usually failures, but they actually pull it off quite well.

### Practice round

We then walk to CAPIO, the stadium where the contest proper would be held, for the practice round. We were led to a large hall, and Coleen showed us where we were seated.

It was divided into eight blocks with fifty tables in each, and the tables had an Acer Aspire on top. There were stands with our contestant IDs and flags: mine had a Philippine flag with E53, block E, row 5, column 3.

Seated to my right was Hashan from Sri Lanka, and to my left was Anouar, from Morocco. Anouar, when he learned of my country, asked me if I was on the Discord. I said I was, and I learn that he's also on it, cool.

An announcer on the second floor would tell us, "do not touch the keyboard," every three minutes or so. Along with that, he would say "the practice round will begin shortly", which was not true at all.

After about an hour, team leaders started to enter the hall. Our team looks for Vernon and Kevin, and they give some final reminders. The practice round begins as I walk to my seat.

There were some issues with the grading system being unavailable. I practice printing some of my code and pick up how to do things in the console. Kevin drops by and teaches me how to execute stuff. Vernon drops by and takes a bunch of pictures.

This was also the time to register any materials needed for Day One, like mice or keyboards or mascots. There were no mice with the laptops this year; Kevin said that this was unusual. Franz needed a mouse, so he coordinates to buy one.

The practice hall gradually ended, and people started leaving. Franz and Coleen were talking to the staff about buying a mouse. Many, many words were exchanged in Japanese. Dan asks where the subtitles are.





Figure 4: Actually okay group picture.

After about twenty minutes of negotiation,<sup>4</sup> Franz could buy a mouse with one of the staff while putting in a request to the organizers on whether the mouse was allowed. So Franz goes out to buy the mouse.

### Kind of free time

Coleen takes the three of us to TICC to wait for the leaders to finish their meeting. There, Andrew and Dan meet with their parents.

We play some ERS at the staircase, and Dan was just too good. Coleen headed back for CAPIO and comes back with Franz. After another game or two of ERS, the leaders finally finish their meeting. Vernon and Kevin meet with us for the last time before the contest to give some final advice.

We take the next bus to NITS. Dan and I try to play some ERS at the bus, which proved unsuccessful. Toomas from Estonia was next to us and was curious about the game, so we explained it, and talked. The count for “is the rain sad” is now five saying no to one saying yes.

Dinner was unremarkable except for the miso soup. We take the next bus to KEK. On the way, Dan and I argue about language and referents,<sup>5</sup> and rope in some other people in the argument.

At KEK, we sign up for the showers. You had to sign up on certain times to use certain rooms for showering.

In front of the office, there was a whiteboard that a bunch of people were gathered around. Written on the board was how to say “Good morning!” in a bunch of languages. Everyone contributed their own language, and it was great to see the

<sup>4</sup>It seemed like tense negotiation, but it was impossible to tell in Japanese.

<sup>5</sup>What does it mean to say *we’re here*? Doesn’t that add no new information, since we are always where we are?

linguistic diversity.

I can't remember specifically who was there, but I do remember seeing ZS, and talking about his socks, which were IOI socks, which were kind of weird.

We were then hit by curfew at 10 PM, so we had to split up. I then ask everyone what time we're waking up, work on this report for a bit, and then sleep.

## 2.3 September 3: Day One

### Rising tension

I wake up to my alarm, and head to everyone else's room. Everyone else is awake too. We got ready and went down pretty quickly.

We take the 6:30 AM bus to NITS, and eat breakfast. We take another early bus to CAPIO. Dan and I sing songs along the way to ease the tension: like Photograph or The Scientist. We wait to be let down from the bus.

After fifteen minutes or so, we were let down, and we met with Coleen. We gave her envelopes containing the valuables we weren't allowed to bring in the contest hall, and lined up to enter.

The line started moving after another fifteen minutes. Security was tight: my handkerchief wasn't allowed, neither were coins, or the pocket guide. We had to go out and deposit these with Coleen before coming back in.

By 8:40 AM, I was in the hall. The contest would not begin for another hour.

### Not much tension really

"Do not touch anything. Do not touch the envelopes. Do not touch the machines. Do not touch the bringing materials. If you need to go to the toilet, you may do so now, but if not, please stay seated. The contest will begin shortly."

On our tables were sheets of paper with **DO NOT TOUCH ANYTHING** printed on. Paulina, the girl from Slovakia sitting behind me, wonders about all the paper used to print that. Imagine: a stack of eight hundred sheets of paper, all with **DO NOT TOUCH ANYTHING**.

As if that wasn't funny enough, the announcer had to repeat saying it, once every couple minutes. It was good at relieving some of the tension of the competition.

Anouar tells me not to celebrate when I get a problem right. Hashan laments the fact that he didn't bring an English dictionary for inspection yesterday. Also seated near me were Paulina, mentioned earlier, Diego from Mexico, and Gamithra from Iceland.

At around 9:30 AM, a couple of people from the block in front of us started doing push-ups. This is related to the push-up challenge on Codeforces: before the contest begins, you pick a positive real  $C$ , and if you score  $P$  points in the IOI, you do  $C(600 - P)$  push-ups over the duration of the IOI.

I had picked  $C = 1$  myself and had already done sixty push-ups; Dan had  $C = 1.1$  and Franz had  $C = 0.5$ . And Franz was one of the people doing push-ups! The announced said "Contestants, please do not over-exert yourselves before the contest begins." Everyone laughs and they stop doing push-ups.

Finally, the announcer gives a definite time for the start of the contest: five minutes. At the two-minute mark, the sound of seats being dragged closer to the tables can be

heard throughout the hall, so people started doing more of it and it was kinda funny. Then, the contest began.

### Contest proper



Figure 5: Day one of the contest.

I'm not sure I want to talk about programming aspects in this report, so I'll leave this section blank for now. I'm very sure I won't forget about what I did during the contest any time soon.

### Mild discussion

After the contest, our team regrouped, and we went out to meet with Kevin, Vernon, and Coleen. They asked us about our performance in the last few minutes, since they weren't able to watch that. Dan looks up current cutoffs.

I was a few points behind silver, while Dan was a few points above silver. Franz was a few points below the bronze cutoff, while Andrew was about eighty percent of the bronze cutoff, based on only the first day.

Kevin tells me not to worry too much about it, and to just do the same thing on the second day. He says that if I worry too much, I might mess up and end up not winning a medal.

We walk to TICC for the lunch. Franz finds out that he missed seventy or so points from COMBO by not going for full points, and is frustrated.

At TICC, we picked up paper plates and serve ourselves some more or less the same food as before. The assigned rooms were full, so we ended up eating outside. We found a glass table and sat around it, mostly on the floor.

We play some ERS to get everyone to stop thinking about the contest. Vernon takes pictures of us playing, and posts them on the NOI.PH page on Facebook, captioned



Figure 6: This is what we look like when we play ERS.

*“Kumusta ang day one ng contest?”<sup>6</sup>*

We then head back to CAPIO for Analysis and Appeals. Along the way, we stop by the leaders’ hotel, EPOCAL. At the lobby, Franz takes advantage of the power supply and charges his phone.

At CAPIO there was some mild discussion about the problems. Dan and Franz reregister their mice for the second day, and we look at our submissions during analysis mode.

We walk back to TICC. Along the way, Kevin and Vernon discuss the GA meeting. A topic of contention was the rounding. This year, scores would be rounded, and the question was whether to round it to zero or two decimal places. There were some philosophical arguments like “it would be stored in a computer, and hence not be perfectly accurate.”

After this, they talked about the live statistics: should there be, or not? There were lots of arguments from both sides. Vernon said that “you could really see democracy at work.” The discussions ended with the question of whether to round the statistics percentages to zero or two decimal places.

### Hard mode

We leave Coleen, Kevin and Vernon at TICC and take the bus to NITS for dinner. The cafeteria was closed, so we went to the lounge on the second floor, which was empty. We played some ERS. There were some snacks and some bottles of water laid out by the door, and I take some.

We head for dinner afterward: Franz stays upstairs to take advantage of the power supply. That left Andrew, Dan and I to eat dinner together. The Nigerian team sat next to us, and we talk.

I’ll have to explain what hard mode is for the next bit. Our team tried to find ways to socialize with other teams. We observed that we always ate dinner together, so

<sup>6</sup>EN: How was day one of the contest?



maybe we should try sitting alone. This became referred to as *hard mode*. *Easy mode* was eating or socializing as a team.

During dinner, Dan takes his things and sits at another table, hard moding. So I take my things and hard mode too, leaving Andrew alone, forcing him to hard mode.

Dan and I were unsuccessful with our hard modes. It's kind of hard to socialize unless you're with people who are willing to socialize too. Andrew, on the other hand, successfully hard modes with the Nigerian team. Dan asks: should it count if they were going easy mode on him?

Eventually, Dan and I return to sit with Andrew, and Franz comes down too. They browse Facebook, and I get bored, so I head up to the lounge.

### Actual free time

At the lounge, I see Jerry, from Australia. I show him the lame card trick I've been showing everyone. Then I saw Paulina, and I also show her the stupid card trick. Look, socializing is hard, okay? I mean, so what if all my interactions were awkward?!?

The British team, plus a couple more people, were trying to build a half-adder out of dominos. It was an XOR and AND. Challenging, but possible if you could perfectly synchronize the dominos. Well, they couldn't. They tried like, thrice, and failed each time. I spend this time trying to build a few things with dominos too, and so do Paulina and Ondrej, who's also from Slovakia.

The rest of our team went up, and we decided to play Jenga. Dan and Franz used the algorithm of taking out the bottommost piece they could. I forgot who lost, but it certainly wasn't me.

We play some more ERS. This time, we pull in Roei from Israel, to play with us. We show him the lame card trick, and then he shows us a decent card trick, involving holding cards in one's knuckles. We managed to play two games.

Then all the people from KEK were called because the last bus to KEK was leaving. While getting on the bus, some of the staff warn us of an incoming typhoon, telling us to bring umbrellas and jackets. We explained we were the Philippine team, and shared a laugh on our common rainy struggles.

### Late nights at KEK

At KEK, we grab our slippers, sign up for showers, and get our keys. There was some more whiteboard discussion again: this time people were writing "Good evening!" in a bunch of languages.

I head up to grab my things before showering. I pass by several people at the third floor lounge looking for playing cards, so I head back to my room and toss in my pack of cards before I shower.

After showering, I head back and see them bored while playing Poker. They were looking for another pack of cards to play a different game. So I come back to my room and toss them another pack of cards.

I join them and play Robber, which Paulina introduces. We play a game, and it was nice: it was funny watching someone work so hard for a high-valued run for someone to steal it from them.

There was another game, which I forget the name of, but it's similar to Pusoy Dos.<sup>7</sup>

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<sup>7</sup>Pagat lists a similar game called President: <https://www.pagat.com/climbing/president.html>.

I think Ivan, from Brazil, introduces this one. I win second, and we play another game and I forgot which place I was.

Finally, Dan and I introduce ERS. People started leaving after a game or two. That left me, and a couple of guys from Croatia and Montenegro. Leo, from Croatia, hooks up a movie on the TV, and we watch for a couple minutes before getting kicked out.

Filip and Kosta from Montenegro, and Dan and I, head downstairs to grab some food from the vending machines. Dan and I grab some curry cup noodles. We talk about culture and the weather. We then get kicked out after eating.

Akram, from Palestine, walks with us upstairs. He invites Dan and me to stay in his room. He was carrying his ISEF 2017 bag for laundry, which was cool because I used my bag for laundry too.

We talk about college, our national qualifiers, weather, politics, the IOI, joining in the future, ICPC, the excursion. Soon enough, it was 1:30 AM, and we all decide to go to sleep.

## 2.4 September 4: Tsukuba Excursion

### Teru teru bouzu

I wake up at 7 AM. We take the next bus to breakfast. At the NITS cafeteria, I bust out my laptop and catch up with a lot of messages. There was no internet at KEK recently; once again NITS is better.

After breakfast, we hit the third floor lounge. We sit down a table and start playing ERS, pulling in a bunch of the same people from yesterday. Leo and Akram join, and ZS and Xin, from Malaysia, spectate. ZS joins at our invitation, and he nearly manages to beat Dan.

But we were called to our bus, sad! We meet with Coleen, who's on the same bus we are. The tour guide introduces himself, talks about the forecasted bad weather, and is grateful it's merely overcast. He shows us a *teru teru bouzo*, loosely translated, a "sunny boy". It's a small doll made of tissue paper, hung outside a window by a piece of string.

He explains he made that *teru teru bouzo* last night, wishing for a sunny day the next day. The weather was not that bad, so it seemed successful.<sup>8</sup> We shortly arrived at our first destination: the JAXA center at Tsukuba.

### JAXA

JAXA is the Japan Aerospace Exploration Agency. We visit this exhibit called the Space Dome, a black hemisphere. We are greeted by a large, backlit, scale model of the Earth.

The first exhibit was about space technology: a comparison of batteries, and reducing friction. The next exhibit were some scale models of rockets. There was this cute, actual-size replica of the Pencil Rocket: a tiny rocket about twice the height and diameter of a pencil. We then step inside a full-sized mockup of the Kibou module on the ISS.

There were two spacesuits that you could put your head in for picture-taking. Coleen asks if anyone wanted a picture, and Franz and Andrew both say no. So Dan takes a picture in one, fulfilling his username of **spacewalker**. I see Anouar there, who was

<sup>8</sup>Who would win? The rain or one ~~sunny boy~~ *teru teru bouzo*?

on the same bus we were. We discuss what happened in day one, the unavoidable conversation material.

The next cool thing was a satellite that measured carbon dioxide levels. It takes a special path that makes it cover pretty much the whole surface area of the Earth. The best part was that there was a live feed of its cameras! Dan was excited about this one as well.

After viewing everything, we head to Planet Cube, their gift shop, and Franz buys a bouncy ball with the Earth in it.



Figure 7: Getting on the bus.

## Lunch

Our guide gave us Japanese lesson number one: *itekimasu* and *tadaima*. You say *itekimasu* when leaving and *tadaima* when returning. We went to TICC for lunch, and we say *itekimasu* to our bus driver as we leave.

Lunch was the same style as yesterday. The hall was just very empty, partly because the buses were staggered: they didn't go to JAXA simultaneously, but one after another. That was incredibly witty of the IOI, but it made the dining hall very quiet.

Coleen brings us copies of the IOI newsletter, a one-page publication for each day of the IOI so far. We try to play some ERS with the Nigerian team, but get interrupted by the bus calling us.

Our guide then gave Japanese lesson number two: *itadakimasu* and *gochisousama*. You say *itadakimasu* to give thanks before a meal, and *gochisousama* to give thanks after.

Our next two stops were in the AIST compound. AIST is the National Institute of Advanced Industrial Science and Technology, and it housed a geology museum and a museum for AIST research.

## Geological Museum

The geological museum greeted us by sheets of pretty rocks. We split up to explore the museum, since there wasn't a set path, and it was pretty big.

Downstairs was a huge, human-sized, to-scale, topographical map of Japan. On top of it were projectors, which projected onto the map. You can change the details of the map, such as showing waterforms or roads, and it's interesting to see these on top of the changes in altitude.

There was an exhibit of fossils that was very neatly organized: from left to right, it was organized chronologically, and the vertical axis sorts them taxonomically. There were colored pipes through them, so you could follow, say, different mollusks over time.

There was a pretty display of fluorescent minerals, with striking, sharp colors under UV light. There were tiny diamonds that reflected light so brilliantly: think holding up a CD times twenty. There was a whole room filled with minerals: native gold, amethysts, fluorite, with colors I couldn't dream of.

## Science Square

The next stop was the Tsukuba Science Square, which was right next to the museum. We were given an earpiece called the Aimulet. You place it in your ear, point it to some overhead LED projectors, and it plays corresponding narration! It even came in two languages, and it didn't need batteries.

The square had the experiments of AIST. Apparently, they were the ones in charge of making the very precise spheres to measure Avogadro's constant, with the goal of redefining the kilogram.

In display were two robot baby seals, named Paro. It responded to petting by moving its tail and closing its eyes, and it also cried! It was hard to tell whether it was cries of joy or pain, however. ZS says it's both.<sup>9</sup>

We spot two people from the Australian team taking a nap on the seats, while their other members took a picture of them napping. Andrew and Franz are apparently pretty sleepy too. It was no surprise that Dan and I sleep on each other's shoulders for the next trip.

## Warp Station Edo

After twenty or so minutes, we arrive at the next destination, Warp Station Edo. It's a detailed replica of a traditional Edo-period town. It was like walking into the Edo period, because it felt very real: if not for being void of activity, having empty buildings, and lots of signs.

The wind blows away Dan's map of the place, and a bunch of people chase it. We walk and spot a fish pond, and people feed the koi there. Seeing the scene, I can't help but be reminded that we're non-natives, with brightly-colored shirts and shorts, foreign to the area. The fish don't mind.

Franz tries to come up with a problem about koi. He has, in fact, been trying to come up with problems all day. After a few minutes, we get tired, and head back to the lobby to buy some ice cream, because it was so hot out. Everyone gets ice cream: Coleen, Dan, Franz, Andrew, and we spend some time messing around in the lobby.

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<sup>9</sup>Masochistic seals? A Google search shows some results.



We then get called back to the bus. I catch up some work for OTIS. The guide gives us Japanese lesson number three: *kouhai* and *senpai*. He shows us a segment from Cool Japan about the distinction, and it was actually pretty cool. After about an hour, we were back at NITS for dinner.

### Uneventful dinner

Back at NITS, we were stopped by a very long line in front of the dormitory. There was going to be a photo taken for each team, along with team guides.

After a long wait, we manage to get our picture taken. We head to the cafeteria, which was closed, so we head to the second floor lounge, which was filled. We eventually decided to stay at the tables outside the lounge, and play ERS, what a surprise.



Figure 8: Group picture!

We got kicked out by people who would use the tables. By that time, though, the cafeteria was open, and we eat dinner together with Coleen. She talks about how she's getting a sizable amount of credits from this.

Dan finally asks about shirts. In particular, it seems as if the guides are wearing the same turquoise shirts every day. Coleen says that they had two of the same shirt, and a shirt with a slightly different design, making three shirts in total. They were asked to simply wash the shirts when all three were used.

### Uneventful free time

After dinner, we head up to the second floor lounge again. Dan, Andrew, and Franz play ERS with Akram, while I step out and take a walk around NITS. It was a windy and calm night.

I come back to the lounge and play Othello. Dan and Franz played Othello too, while Andrew plays some card games with some other people. I end up talking to

Noam, from Israel, who introduces himself to me. We knew each other from the Discord server, and he said he was trying to talk to everyone on the server that night.

I watch a big group play Bluff. I show someone the cheap card trick and we ended up playing Uno, twice. We were then called to take the last bus to KEK, which was leaving.

On the bus ride, Dan and I sang Bohemian Rhapsody, a song very fitting for the IOI.<sup>10</sup> Back at KEK, we sign up for showers, and on the whiteboard was “thank you” in different languages, so we add Filipino and Esperanto.

I head to Dan’s room, and we talk for a bit before sleeping. I tell him I’m worried about what will happen after the IOI: going home, and all that stuff. He tries to reassure me, and then we go to sleep.

## 2.5 September 5: Day Two

### The beginning of the end

We eat breakfast. It was a contemplative breakfast, and the only thing that happened was me talking to Ben from USA, mistaking him for Eric. Silly.

On the bus to CAPIO, Dan and I sing a bunch of songs while waiting on the bus. We try to sing Despacito, the necessary song, but we mess up the stanzas.

We deposited our things. Security was much faster that day, presumably because people know what is and isn’t allowed.

The same person was handling announcements that day, and he has decided to change his script. His base message was now “Do not touch anything. Do not eat before the contest begins.”

Another memorable one was “If you leave for the toilet, do not forget your ID badge. If you forget your ID, you will not come back.” The “you will not come back” part was just so funny. And of course, who can forget “Do not touch the banana”?

Paulina shares what she heard from an ICPC: “Do not touch anything. Except for your seat. You are supposed to touch your seat. With the appropriate part of your body.”

The people around me discuss an earthquake that happened that morning, which I did not feel. It happened maybe 5 AM or so, waking up a lot of people. The contest then began much more on time than day one, at 9:10 AM.

### Contest proper

I do not want to talk about this.

### Frozen

When the contest ended to shushed applause, I was frozen. I was stuck. The end of the contest was announced, and people were packing up their things, and I couldn’t move. I couldn’t think. I stared ahead at nothing in particular, and everything around me was moving.

Soon enough, everyone on my block was gone, and a dozen people or so were left. “Time to leave,” one of the staff said. I rose from my chair, my mind refusing to make

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<sup>10</sup>Open your eyes, look up to the skies and see... plus plus.

any sense of what happened. I stare at the sad pile of paper on my table, wondering if I should keep them, as if there was a reason for me to forget this.

Dan meets me. I say I scored 19 points.

My vision turns blurry and I turn away from him. Dan wraps his arms around me, holding my shoulders as we walk out of the hall. I leave for the toilet.

I wash my face, looking to see if my eyes were red. Walking out of CAPIO, I feel my legs being weighted by sand, *what would Vernon say? What would Kevin think?* Outside, I see Vernon and Kevin and Coleen, and I couldn't talk. What was there to say?

I rolled my head in my arms against a pillar, the last moments of the contest replaying and replaying, worries filling and filling me, my mind coming up with a different way it could have ended, and another and another, all of them better. What have I done? *What have I done?*

Everyone gives me a pat on the back: Vernon, Kevin, Coleen. Andrew, Dan, Franz, even hug me. It felt so selfish, knowing I was not the one who scored lowest, not the one who failed hardest, but maybe, right then, the one who needed it most.

I wipe my tears. I start walking to TICC for lunch, leaving the rest of the team behind me. I get my food alone, I find a seat alone. As I was finishing my meal, everyone decides to sit near me, while I cover my face with my jacket and cry.

I hear people around me discussing problems, and I cover my ears. Every time I overhear the words "bronze" and "score" and "cut-off", my mind has to censor it, not wanting to think about my performance.

An hour. Another hour. It becomes hard to tell time, when the only thing I wanted to do was be sad. Then, slowly, I build enough energy to talk.

## Slowly

I ask to borrow Dan's phone. I check my messages, talk to people. Python- comforts me, a little.

I check the scoreboard. I was below the bronze cutoff. Seeing it hurt me more, as I hanging on to the hope that maybe I still could've gotten a medal. But it's real: I spent three years on competitive programming, with the only thing to show for it a no-medal performance, made worse as it could have been bronze, even silver, but I just had to mess up, just had to fail.

I return Dan's phone and cry some more.

Eventually it's time for Analysis and Appeals. Vernon offers for us to hang out in his room at EPOCAL, and we do. I try to discuss DOLLS from the contest, but let it go because I didn't want to remember any of it. We play a game of ERS.

Dan brings up the cut-offs again, and I had to take his phone from him, because he kept looking at the scoreboard. The reason we were playing, after all, was to take our minds off the contest.

We try to play Bluff, but our rules were bad so Dan trolls us by collecting nearly all the cards. We try to play Camps, and I make a miscall of Double Camps when I thought Franz had four of a kind.

Eventually Kevin and Lyndzy come in, and we all head to the Japan Stage together. It'd be a performance at the main convention hall at TICC, where the opening ceremonies were held.

## Japan Stage

We were late a few minutes, but the program hasn't started when we arrived. We sit behind the media recording the event, behind a huge camera. That obscured a part of the stage from my view, but only a small part.

The University of Tsukuba's traditional Japanese entertainment group performed for us. Their opening act had two dozen people, each with a *shamisen*, two zithers, a synthesizer, and a drum set with *wadaiko* instead of Western drums.

The next act had four *shamisen* players do solos, all with incredible fingering. There was a percussion piece played solely with the *wadaiko*, and eight members from the audience were called to play along with them, which was pretty fun.

They sang this really bright song about the sun being in everyone's hearts. Surprisingly, it wasn't overly sweet: it was a legitimately happy song that recognized life sucks sometimes. I shed a few tears because it reminded me of the contest earlier, in a bittersweet way.

Their last piece was a festival song celebrating a fishing catch. We were asked to participate by shouting in a call-and-response: "*Dokkoissho, dokkoissho! Soran, soran!*", and that was fun.

The performance ended, and all the performers went out so that people could take pictures with them. We take a picture with two of them, and then decide to head back to NITS for dinner.



Figure 9: Pictures with some of the performers during the Japan Stage.

## Distractions

Going down, I spot the USA team. I spot Eric, and decide to say hi. I was reluctant at first, but I ask if he was Eric Zhang, and tell him that Vincent said hi.

He asks me who I am and how I knew Vincent, and he tells me that he's **fz0715** on AoPS, which I recognize from Vincent's blog. He recognizes me from PRIMES, which was cool.

We were cut-off by the bus leaving for NITS, so we say goodbye to Coleen, Vernon



and Kevin, and get on the bus. The dining hall at the cafeteria was full, so we ate at the second floor lounge.

I show Franz and Dan the troll problem I learned at PROMYS involving dissecting a polygon into five congruent pieces.<sup>11</sup> I laugh as they work on it for a couple minutes.

Andrew shows us this big crusted cheesecake his parents bought for him, so we very badly slice and share it. His parents bought him two cheesecakes, and we saved the other one for the next day.

Dan and Franz have been working on the problem for several minutes now. I show Andrew the solution, and now he laughs with me too.

A guy from Dominican Republic recognizes the shirt I'm wearing, which was from Homestuck. Then I spot a guy wearing a PROMYS Europe 2018 shirt from Switzerland and we talk about Glenn and Henry as lecturers.

And then everyone gets kicked out, including NITS people. Finally, we've achieved NITS-KEK equality.

### Unhealthy sleeping habits

We wait for the last bus to KEK at the tents set up at the parking lot. We sit by a table there, and Dan and Franz are *still* trying to solve the troll problem.

"It's just induction!" I would say. "Just try  $n = 2$ , then  $n = 3$ , and then  $n = 4$ . Then induct." Andrew would nod in agreement, and laugh. Finally, Dan gets the solution. He is incredibly miffed at the problem, and joins Andrew and me in trolling Franz as to the solution.

The bus finally arrives. We sit in the front, and ZS sits right behind us, so we have a conversation about the troll problem. Sadly, he's seen it before, so we didn't get a chance to troll him.

The bus leaves at 9:30 PM or so, the latest a bus has left from NITS to KEK. Dan and I evangelize ZS to the Gospel of Kevin: "In the beginning, Gennady created the heavens and the earth. And he assigned Kevin to maintain the source code."

The bus arrives at KEK rather quickly. It's already nearly curfew, so there wasn't enough time to use the private showers.

I crash Dan's room and we spend all night talking. We stay up to 2 AM showing each other random stuff, and then decide we stayed up *way* too late. We go to sleep.

## 2.6 September 6: Ibaraki Excursion

### Actual conversations

We wake up pretty early and take the bus to NITS. Eric sits next to ur team, leading us to an easy-mode conversation with him about day two. Then Joey sat with us, and then ZS sat with us, and a bunch of other people too, which leads to an easy-mode high-quality conversation.

Eric gives this interview question: design a data structure that stores up to  $N$  items with  $O(N)$  memory, such that accessing an element is done in  $O(1)$  time, and storing a new element replaces the oldest-accessed element, also in  $O(1)$  time. The solution uses a linked list, and he says it's the only use of a linked list he knows of.

<sup>11</sup>For the benefit of the reader, I have not included this problem here.

The cafeteria closed and we bring our conversations to the third floor lounge. Joey, Ivan, Dan, Zs and I, I think, have a conversation about national olympiads, college, high school, our names, the weather and languages (again...).



Figure 10: A couple of the world's smartest kids playing with a plastic bottle.

Franz takes advantage of a chair and sleeps. Andrew takes advantage of the WiFi. And then there were a couple people playing football with a plastic bottle.

I come back in and talk to some other people. Eric asks me about the resolution to the two-envelope problem. He then gives me another probability paradox, involving a patient awakened and amnesia and something.<sup>12</sup> But we were cut short by the buses arriving.

### Hitachi Seaside Park

On the bus, we meet with Vernon and Kevin. Coleen wouldn't be joining us on our excursion that day, unlike the first excursion. We greet Vernon a happy birthday.

The first bus ride was pretty long, taking nearly an hour. The tour guide's discussion was actually interesting, as Akram was raising some interesting questions. The tour guide talks about kanji, and it was noted it's rather sexist.

Our first stop was Hitachi Seaside Park. It was this huge park, large enough to be its own *barangay*.<sup>13</sup> We got off the bus and started walking towards the central hill, which would take twenty minutes.

On the west side of the park was this hill named Miharashi Hill, and on it was the highest-altitude point in all of Hitachinaka. We talk about metaheuristics like hill climb and gradient descent.

On a local optimum of the hill was a sign with a picture of it. The hill was covered with green bushes all over it, and they turn bright red in October. Which would have been great to see had it not been September. There was a great view of the park and of the Pacific Ocean, though.

<sup>12</sup>I later learn this is called the Sleeping Beauty problem.

<sup>13</sup>An administrative subdivision of a city; a village or district.

We spend another twenty minutes walking back to the gate we entered through. There was still twenty minutes left left, so we walked east for ten minutes, don't see anything, and then walk back. In other words, the park was a way for the IOI to implement exercise.

At the gate, everyone buys ice cream again. Andrew's parents offer to buy me some too, and I couldn't resist. Paulina was there, and we talk about the weather and humidity.

## Lunch

We were called back to the buses soon enough. Lunch was at this stadium a couple minutes away that the IOI rented out for us. We were served boxed lunches and boxed green tea. We head up to the third floor of the stadium and eat. The rest of the Philippine guests were there too.

Franz gets the vegetarian box, because he earlier said to the tour guide that he could not eat seafood. Upon opening the regular box, he was disappointed to find out there was only one article of seafood. He compensates by talking about animal suffering.

Dan, Andrew and I remind Franz of the dissection problem, and he works on it for a couple minutes. Then, he *finally* gets it. We then show Kevin the dissection problem, and he gets it immediately.

When we head back to the bus, we give Vernon our actual birthday gift: the dissection problem! Dan times him solving it, and he does solve it in around sixteen minutes.

Our guide explained Japanese religion again, and it was interesting to hear about how Shintoism and Buddhism interacted. She reminded us not to step on certain rocks, which were deemed holy. After a couple minutes, we arrived at our next destination: a Shinto shrine.

## Oarai Isosaki Shrine

Our tour guide points to a gate leading in. Passing through this gate cleanses the mind. She then demonstrates the purification of the body, which involves a basin of water and a ladle: you rinse your hands and mouth using the ladle.

I recognize this from the ~~multiple anime I have watched~~ extensive cultural research I have done. We entered the main shrine, and the guide taught us how to pray. You toss in a coin, bow twice, clap twice, pray, and then bow again. I prayed that I would feel better about failing yesterday.

Around the shrine there were some wooden prayer panels hanging from some pillars. These panels were covered with drawings of characters from an anime set in Ibaraki. One of them wished for "world peace", and Andrew commented that might need a big offering.

We exit past the gate. There were, in fact, three gates: a small first gate, then five or six dozen steps down was this *huge* second gate. Across the street was a beach, and on this beach were a couple rocks, where the third gate was built.

A lone gray gate confronting the pastel sky, amid the constant sound of waves crashing on the rocks. "Because there's nothing more beautiful than the way the ocean refuses to stop kissing the shoreline, no matter how many times it's sent away."<sup>14</sup>

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<sup>14</sup>From "B", a poem by Sarah Kay.



Figure 11: The ocean refuses to stop kissing the shoreline, no matter how many times it's sent away.

I then realized these were the rocks being referred to earlier. Do not step on the rocks. If you step on the rocks, you will not come back. Good memes.

Franz takes off his shoes and approaches the shore. He then breaks the laws of physics by skipping pebbles. Akram approaches the shore too and tries to skip pebbles, and Dan and I couldn't resist throwing too.

We take pictures by the huge gate, get really tired walking up, then take pictures by the small gate. Finally, we head back to the bus for our third destination: Aqua World!

## Aqua World

We were greeted at the entrance by posters from the earlier anime. The first exhibit was this cylindrical tank of hundreds of fish swimming clockwise, memorable because they were so synchronized.

We pass by this huge tank with *shaaaaaarks*. We watch some mushroom-looking jellyfish being fed. We see a stop-motion of a sea cucumber digesting something over a long period of time, which was disgusting.

Then we saw metaphors for our existence: this fish with a huge mouth sucking a plastic barrier, and this puffin swimming towards the glass wall separating us. While our efforts may not be pointless, our points certainly weren't enough.

Then there was a show with two dolphins and a sea lion, called Ocean Live. We seat near the front, with Kevin and I eagerly hoping to get splashed on. Franz and Vernon take precautions by wearing their raincoats, and Andrew sits further behind.

The animals splashed and danced and caught and threw and balanced and jumped and touched and clapped. It was a demonstration of classical conditioning too: immediately after *every* action, they were fed with fish. Near the end, one of the dolphins splashed so much water towards the center, the people there walked out drenched.





Figure 12: The puffin is a metaphor for our existence.

### Yakiniku

We had a long ride home, which I spend grading and sleeping. I wake up at NITS, with Vernon coordinating our arrangements for dinner, as we would have dinner out.

We get off at TICC instead of NITS, and meet with the parents, Lyndzy, and Coleen. We walk to a nearby Japanese barbecue place, a *yakiniku* place.

The team sit with Dan's parents, and everyone else was on another table. Everyone in the team tries to grill, despite Dan's mom wanting to do all the cooking. I flex by continuing to grill even as the flames rose to my hand. There were like three waves of meat, and I was already feeling full by the third wave.

After the third plate of meat, we were greeted with a birthday cake for Vernon! And they surprised be by bringing out a cake for me too! Everyone sang happy birthday and we ate the cake. It was also going to be Coleen's birthday on September 9, but apparently the parents didn't know, so they weren't able to get cake for her.

### Late-night conversations

At KEK, we grab our keys and sign up for showers. We were introduced to the KEK lounge, which no one's been to, and we were also told how to get in the dorm past curfew. A bunch of people there played Mafia, and there was WiFi, so we went.

I take advantage of the internet and check my messages. Leo got eliminated from Mafia, so I pull out a pack of cards and get him to play ERS. A couple more people arrived, so we introduce the game and get them to play.

I had signed up for the 9:20 PM shower and it was already half past nine. So I rush in the dormitory, shower in like five minutes, and get out. I was greeted by some guy saying ERS was great. This is all part of my master plan to introduce ERS to everyone.

I head back to the lounge, and they were still playing. After a few minutes, we get kicked out. Upstairs, we crashed Akram's room, 1-317, which was conveniently near ours.

We try playing ERS at first, but then get sick of it. So Gamithra teaches us a card game involving stealing a bottle placed at the center, which works as a better mechanic

than slapping. It goes well until Akram gets an injured finger.

We then play the less intense game of Robber. At this point Gamithra pulls out and ZS, Franz, and Andrew join in. Our group was Xin and ZS, Leo, Akram, and the Philippine team. We then play a great game of Bluff, with *actually good rules* from Leo, who picked it up from the German team.

I get rid of all my cards around two-thirds of the way into the game. Then Leo shows us some 300 IQ plays against Akram and Franz, which were hilarious. We end up having a very long conversation til 1 AM: we talked about the IOI and other olympiads, the laptops and the problem balance, the live statistics, memes.

Someone brought up the topic of NITS and KEK. Although NITS was better, KEK was cozier. People actually stayed in lounges and had tighter-knit groups. There was talk of ICPC and wistful hopes of meeting again, and Xin observes we probably won't.

But it was fun while it lasted.

## 2.7 September 7: Closing

### Clueless tourists

In the morning, we go to TICC. Then Andrew and Franz and I run to Tsukuba Station to get on a bus to an anime store. There were eight stops around a U-turn, and each stop served around six lines. Finding the right stop was easy, but finding the right line was challenging because everything was in Japanese. Because we were in Japan. Hence everything would be in Japanese.

We got on the right bus, but we were clueless how to pay, so another person told us how. We talked about how the buses had screens and we pointed at the mall as it passed by. Such tourist, but sadly, not the Gennady kind of tourist.

We went to the third floor looking for the store, but realized it wasn't there. We were at Aeon Mall *Tsukuba*, when we should've been in Aeon Mall *Tsuitachi*.

Andrew's dad, Franz, Andrew and I would take a taxi to the right mall, while Andrew's mom would stay and shop. We go down to the taxi bay, and waited. After a couple minutes we realized there probably weren't going to be any taxis, so we ask for help.

At the service counter in the department store, we try to say that we needed to hail a taxi and were unable to make calls ourselves. With Google Translate, it was understood, and a couple minutes later we were at Aeon Mall Tsuitachi.

### Unoffensive anime

The anime store there was pretty small. It was around two classrooms big and had mostly recent anime, which means that I didn't recognize most of the anime. Andrew and Franz recognize more anime than I do. There was One Punch Man, Mob Psycho 100, Touhou, Bungou Stray Dogs, Boku no Hero Academia, and Free, among the ones I knew.

We couldn't get any manga since none of us read Japanese. There were some Boku no Hero shirts, but the designs weren't great. We also didn't want to get anything we wouldn't use. And we also needed to get something for Dan.

"Which is challenging," Andrew said, "since he doesn't watch anime."

"Yet. He doesn't watch anime yet. We'll just pick an unoffensive anime he *will* like," I say.

So we get Dan a folder from *Boku no Hero Academia*, since it's an anime that everyone likes. We buy a bunch of folders too, and Andrew gets a *Boku no Hero* pouch. We then head to the service counter to hail a taxi.

On the taxi, I flex my Japanese skills by having a conversation with the driver. The first thing he asked was our ages, which was simple enough. Then he asked why we were at Tsukuba, which was also simple since *programming competition* in Japanese is just *puroguramin kompetishon*.

He asks us about our stay in Japan so far, and then I direct the conversation to food, since that's easy to talk about. He asks us what we liked so far, and we talked about the *yakiniku* place we went to last night.

Finally, he asks us if the contest was *owatta*. I didn't know that word. He opened up his phone and popped up a translation app: it meant *finished*. I say yes, and commented that it was *zannen*. *Tottemo zannen*.<sup>15</sup>

## Lunch

I've officially run out of Japanese for the rest of my life. Our things were in Andrew's parents' room, so we head there and change into formal wear for the closing ceremony.

We changed into our *barong Tagalog*, traditional Filipino formal wear. It looked like we were going to do some *serious* business. Andrew spots his mom buying from a halal food truck, and his dad waves to her.

After changing, we head down to meet with Andrew's mom, and she bought us some food and some boba. We walk to TICC, spot Dan, Vernon, and Kevin, and eat lunch together. Andrew, Franz, Vernon and I discuss our top five anime, not necessarily in order. Everyone mentions some anime no one else has heard of before.

Dan changes into his *barong*, and we talk about the Knowledge Fair that morning. There was this self-driving AI thing that was pretty cool. We then head to the closing ceremonies after taking some pictures.

## Closing ceremonies

We check the WiFi names, and there was the unusual SSID of "00 CODE OF CONDUCT". There were more of the format (number) (phrase), and we realized it was the IOI Code of Conduct, split into sixty lines of SSIDs. They must have an incredible amount of routers.

The closing ceremonies begin with a performance from University of Tsukuba students. Our emcee was the same as last time, and there were two short speeches. Greg Lee's speech is memorable again: he congratulated the medalists and asked us if we made any friends.

I'm happy to say I have, if only for fleeting moments.

The awarding immediately followed the speeches, and it hurt me again. I couldn't help but hope I would, somehow, get called. I spend most of it distracting myself with Dan's phone, on Discord.

Between the bronze and silver medalists, a highlight video was shown, which was pretty cute. Then the silver medalists were awarded, and Dan went up, and then the gold medalists were awarded.

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<sup>15</sup>EN: A disappointment. A huge disappointment.



Figure 13: Ben is so cute! Don't tell him I said that.



Figure 14: Confetti!



Ben was awarded top scorer, to much deserved applause. He was given a short interview by the emcee after the awarding, and he gave hilarious one-word responses. Then the IOI flag was handed over: next year's IOI will be held in Azerbaijan.

The ceremonies closed with another highlight reel as a closing video. We were then surprised with confetti, which we played around with.

## Sayonara

We spend a long time waiting for the stage to clear up so we could take pictures. We take photos in lots of configurations: with and without team leaders, the Philippine flag, standing to one side, all centered, and so on.

We were one of the last to leave TICC for the closing party, which would be held at CAPIO. It was called the Sayonara Party. *Sayonara* carries a sense of finality with it. It's what you would say to someone you aren't sure you'll ever see again. A fitting choice of words.

We find an empty table near the area I sat for the contest. After dinner, Dan and I hunt for people to take pictures with. On Dan's phone, I have pictures with Joey, Félix, Leo, Eric, zS, Xin, William, Anouar, Ivan, Noam, and Hashan.

The whole Philippine team took a picture with the Vietnam team, and it was a complete meme: they had DO NOT TOUCH ANYTHING signs and we held bananas, in reference to "do not touch the banana."

We left the party when it became clear lots of people left, and we headed for karaoke.



Figure 15: Do not touch anything!

## Karaoke

There was a karaoke place we would pass by whenever we walked between TICC and CAPIO, and we head there. There, Akram suddenly pops up from a booth, and greets us. Apparently they were there too, neat.

We then sing a lot of Japanese songs! We sang songs from Shigatsu wa Kimi no Uso, Neon Genesis Evangelion, Tokyo Ghoul, No Game No Life, Shingeki no Kyojin,

Steins;Gate and Steins;Gate 0, Clannad, Kimi No Na Wa, and way more. Some of them reminded me of PROMYS, which stung a little.

It was fun to see Dan passionately rapping Lose Yourself, or Franz struggling at the high notes of Last Game, or Andrew sing Dango Daikazoku.

Of course, we had to sing meme songs. We sang the first few beats of Never Gonna Give You Up, and PPAP. We ended with the best meme song ever: Despacito.

### Past curfew

We ended singing about a quarter to ten or so, which meant we're definitely coming to KEK past curfew.

We couldn't hail taxis at TICC or EPOCAL, so Vernon and Kevin get the front desk to call a taxi. The taxi took us to the gate of KEK, so we had to walk our way to the dormitory.

At the dormitory, as we were past curfew, the front door was locked and we didn't have keys. So Dan had to enter through the side door, passing through a bunch of people at the lounge, and miraculously came out unembarrassed.

We pick up our keys and apologize for coming in past curfew. On the whiteboard were times of departure for each time, a painful reminder that it'll soon be over.

We crashed the third floor lounge and ate the remaining cheesecake Andrew's parents bought us. We spend a lot of time just talking to each other: olympiads, memes, Japanese culture, WiFi names, miso soup. Once we decide what time to wake up to leave, Franz and Andrew head to sleep.

Paulina walks in, and we ask her why we didn't catch them at the party. Two guys were there, browsing the Vocaloid wiki, which had funny comments. We also shared some good food: Stik-O, empanaditas, some cereal thing, chocolate with salt.

Then we get kicked out, and then I sleep.

## 2.8 September 8: Departure

### Checkout

We wake up at 7 AM to pack, because we had to go down by 8 AM to check out. We pack, then head downstairs.

Saying goodbye to a place I've stayed in has always been hard for me, especially for a place like KEK. Downstairs, we return our keys, say goodbye to the staff, and ride the bus.

At NITS, we head to the gym. On the columns of the gym were sheets of paper with times of departure. We were in the last group of flights, since our flight was 8 PM. We put our luggage there and head to the cafeteria to pick up breakfast.

A map of the place was posted on the whiteboard, labeled `map`. Appended to it was `<int, int> mp;`. I won't be hearing those kinds of jokes for a while. We went up to eat breakfast.

### Goodbyes

I mostly socialized with the Americans, Canadians, and our team. With Victor, Peter and Joey, all from Canada, we talked about Vim and AP Physics. William shows us a bunch of videos showing US politics is a comedy.

There was a lot of Go being played on the Othello boards. I play nearly everyone who was playing. Joey is actually decent at Go, and I had to take a four-stone handicap to win against him on a  $9 \times 9$ .

Posted on the whiteboard was one of the **DO NOT TOUCH ANYTHING** warnings, with **ANYTHING** crossed out and **BANANA** written, the culmination of IOI memes. It is a joke that was understood by everyone at the IOI that year, and would be forgotten soon enough.

The Slovakia team leaves that morning, and I say goodbye to them. I lament at the fact that time slipped away so quickly, as it was lunch time.

We head down to grab our boxed lunches. As I go up, I see the Canadian team leaving, and I say my goodbyes. With them gone, it's only about an hour or so until everyone has to leave, and there are only a handful of teams left at the lounge.

One of the staff comes in and says that everyone needed to go soon, so we should clean up. We clean up the trash, pack up the board games, and say our goodbyes to each other. My heart gets torn to shreds.

Soon enough this will all be a faint, unaccessible, happy memory. Emotions I've felt here I won't feel for a long time, and until then they will be lost to the sands of the everyday grind. This was not a mere goodbye. It was sayonara.

## Tokyo, or lack thereof

I didn't really know anyone from the teams who rode with us to Narita, so there wasn't much conversation. We were leaving at Terminal 2, so we rode a different bus than the people who were going to Terminal 1, which had people I actually talked to like Akram or the USA team.

We arrived at the airport at 3 PM or so, which meant we had five hours before our boarding. Someone suggested going around Tokyo, but Vernon pointed out we had luggage to carry around. We never did get to explore Tokyo.

Our check-in counter was still closed so we went up and find seats. I window shop at a stationery store. They had these compact staplers, a rack of tapes of a hundred designs, more Lamy pens than I've seen together, and the new Frixion pens.

We head to N's Lounge, where the "can take advantage of the power supply" meme originated. I decide to pick the questionable bowl of udon with tofu skin and seasonal vegetables. I did not like it, which I *was* preparing for.

We talk about next year's NOI and writing problems for it. We talk about reputation on Codeforces and discuss IOI memes. It was decided that we write a Codeforces round together, partly for the memes and partly for the reputation.

## Flying

We head downstairs to check-in. The line for the check-in counters were long, welcoming us back to the Philippines. During the wait, I give Dan a Japanese lesson on the *gojuon*, the Japanese alphabet. I also teach him some phrases like greetings and introductions.

We all checked-in as a huge group, so it took quite long. Past security, Vernon talks about the first time he went to Narita airport, when he rushed through everything because he came to the airport late.

At the boarding gate, I take advantage of the WiFi and make a Google Photos folder. Franz, Vernon, and Dan place lots of pictures in, to my delight. Dan and I add a bunch of people we met at the IOI on Facebook.

We board the plane. On the flight, I sit next to Dan, and give him a crash course on *hiragana*, one of Japanese's writing systems. He learns all forty-five characters in about two hours, which is impressive. Then we watch two episodes of *Steins;Gate*, and he becomes interested, as part of the plan to make Dan like anime.

Everyone slept pretty quickly so no one else watched with us. I work on my report on the plane. Soon enough, we touched down at Manila.

### 3 Acknowledgments

To everyone who organized the IOI, thanks for the problems and smooth logistics of the whole contest.

To the constantly hard-working people behind the NOI: thank you for getting me here, for training me, and for being good mentors.

To my contemporaries in the competitive programming community, here in the Philippines and abroad, thank you for your support.