

General Assembly of International Olympiad in Informatics

Minutes of the Meetings held in Kazan, Russian Federation

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1. Welcome

Vladimir Kiryuhkin welcomed the members of the GA to IOI-2016, the 28th IOI. Krassimir Manev also welcomed the members on behalf of the IC.

Apologies: Two countries, Turkey and Ukraine cannot attend. 81 countries will participate.

There are 5 new observers. Three have been approved by the IC and two were invited as guests.

2. Explanation of the Chair (Krassimir Manev)

Last year he chair was not acquainted with the IOI. This year the proposed chair is now unable to attend. The IC may propose a regulation change about the chair. For the moment, please accept the president's chairing.

Proposed regulation changes will be placed into pigeon holes today or tomorrow so that the GA has time to consider them

3. Presentation and Confirmation of GA Agenda

The agenda of the GA meetings was approved unanimously.

4. Appointment of scrutineers for voting during GA meetings

In accordance with the usual IOI procedure, past chairs who are present should act as scrutineers. (Troy Vasiga, Greg Lee and Zide Du)

5. Competition procedures (Jakub Łącki)

The most important changes were outlined.

(a) Submitting: To avoid overloading the grading system, there are two restrictions on the number of submissions:

1. Contestants may submit a solution to each task at most once per minute. This restriction does not apply in the last 15 minutes of the contest round.
2. Contestants may submit at most 100 solutions for each task.

(b) Feedback

The final score for each subtask will be the maximum score of this subtask across all submissions. The score for each task will be sum of scores for its subtasks.

(For example, consider a contestant who made two submissions on a task that contains two subtasks. First submitted solution got 30 points for the first subtask and 10 points for the second subtask, second solution got 0 points for the first subtask and 40 points for the second subtask, then the final score for this task will be 70.)

If a subtask is not solved, then the grading system will give the feedback for the first input scenario, which was not solved correctly.

The feedback will contain the input scenario number and one of the following reasons:

- Wrong Answer
- Run-time error (or out of memory)
- Time limit exceeded
- Security violation Inputs are ordered the same way in all the runs.

No information on the actual data, the output produced by the contestant solution or any other execution details will be given to the contestant.

(c) Cheating

- Contestants must not attempt to reverse engineer the test data. This is not to be construed to limit adaptive submission behaviours. Due to the varying degrees of information that a contestant may attempt to extract, such cases will be handled on a case-per-case basis, ideally with consultation with team leader.

(d) Appeal Process

In the event of an error with the test data, the scientific committee will attempt to, but is not obligated to follow the following process:

- Every attempt will be made to fix test data and regrade all solutions as quickly as possible.
- Additional test data may be added only when the grading data does not meet the intention of the scientific committee from before the contest.
- Late detections of issues, especially during the last 2 hours of the contest, may be grounds for extending the length of the contest.

In the event that every submission of a task should be re-graded and re-scored as a consequence of an accepted appeal, note that re-scoring may result in a higher or lower score for any contestant. Should anyone's score change after grading results have been published, new results will be published again. Score changes resulting from this are not appealable.

Further Comments

There are 160 graders which should be sufficient from the experience last year.

The change to the Cheating rule was because of a student may be "playing the grader. If a contestant is trying to reverse engineer the test data then this expressly prohibits him/her from getting information from multiple submissions, then writing code to test if its running this data set, The wording is imperfect and the GA was invited to improve it now they understand its intention.

If there are problems in last 2 hours (eg with test data) then we will consider extending the contest.

Objections were raised to the rule change for cheating. It was clarified that the intent is to make it explicit that trying to gain the correct answer by using knowledge gained from submissions but not attempting to solve the problem algorithmically is forbidden.

It will show in the problem statement if there are partial marks inside a subtask. (HSC clarified)

There will be paper and students may print. The task statements may be on paper. Questions can be submitted electronically or on paper.

[The acoustics of the hall are problematic]

It was determined that guests may help with translation and transport will be arranged from their accommodation to the translation hall.

6. Call for Nominations for ISC and IC

Two positions were due to be filled on IC and one for ISC. The closing date for nominations for the 3 positions would be the start of the GA meeting before the second competition day.

7. Issues arising from the Practice Session (HSC and ISC)

a) Food and Watches

Contestants may not bring their own snacks or ordinary watches. Fruit, cookies and water would be provided.

There was extensive discussion about keeping the “No food rule”. In favour 42, against 20.

The HSC will accommodate medical conditions where there is a signed medical form supporting the request. They also undertook to try and organise more food for day 2.

Keeping the rule for no watches: In favour 63, against 2 (wanting mechanical watches).

b) Reverse Engineering Rule

A question was asked if placing an assert in a branch of code to see if it is executed was to be considered illegal. The answer was that if it was an attempt to reverse engineer code then yes, it is illegal.

There was debate about the clarity of the rule pertaining to students trying to write code based on what they had detected from data. For example if the primary focus of the code was to develop an algorithm and by default some properties of data were found, then it is not reverse engineering. Also Computer Science is about data and maybe students should be allowed to analyse it. The ISC was aware of this behaviour last year and had tried to formulate a rule, but it is impossible to know what students may try and thus to fully regulate.

After further discussion a vote was taken.

Option 1: keep the rule in its current form: In favour 18.

Option 2: drop the rule: In favour 53.

The ISC asked if it was the concept or the wording which was rejected.

A 3rd option, to instate the rule when it has been formulated better was approved by 75 votes for and 0 against.

Students should be informed the rule has been dropped.

c) Clarifications would be on the system and paper. Both are acceptable and work.

- d) Students experiencing problems due to air conditioning would be moved, and those who have their own keyboard can ask for the extra one to be removed.
- e) Students would be informed of adaptive graders.
- f) The Compilation scripts seen by students is the same as that running on the server side. Students may choose their own options but it will not affect the server side.

8. Notices

- a) Registration: pay to Eljakim Schijvers just before translation.
- b) During the "Hello Russia" event, wifi ssid's commenting on a former female student were visible. Please ask your students to respect current and past competitors.

9. Wireless Keyboard

A Brazilian student used Facebook on the IOI website to ask if he could use his own wireless keyboard and was told Yes. This is against the rules and he now can't find an appropriate wired keyboard. An exception was asked for from the GA. The HSC stated a specific image would need to be built and there would be no guarantee that it would both work for the student and be guaranteed to be fair to all contestants.

Option 1: Don't allow: 44 voted In favour.

Option 2: Allow, knowing that the host will try to accommodate this but it is not guaranteed: 14 voted In favour.

The leader was asked to pass on apologies to the student but to also inform him it will not be allowed.

10. Regulation changes signalled in brief (Ben Burton)

- Formalise GA votes from 2014/2015.
- A new rule that National Delegation need to be issued invitations if they attended in the last 3 years will be waived for hosts selected before IOI 2015.
- Off Site Competition: allows for remote participation in the rare event where a country doesn't have diplomatic relations with the host.
- International Technical Committee: ITWG replaced with ITC, formalising the trial from 2015/2016. There will be 4 host members and 3 nominated by ISC and approved/elected by the GA. The ISC will give a list of approved people to the GA to vote on (if exactly 3 no election). Talk to ISC if interested. There will be an initial round of appointees this year and the GA was invited to talk to the ISC if they are interested in standing.
- Host selection – will be exactly 4 years in advance.
- More flexibility in allowing observers.
- Conference organiser in list of invited participants.
- GA chair should have good English communication skills.
- Delete the non-existent technical guidelines.

11. Presentation of tasks, competition day 1 (Jakub Łącki)

Three tasks were presented tasks: Detecting Molecules, Roller Coaster Railroad and Shortcut. The type of Objections were explained: minor (e.g.: wording) or major objections (e.g.: reject task). A flowchart for the translating was presented. Solution outlines were displayed. A vote to accept the tasks was taken: Yes: 64, No 0, Abstain 0

Wording changes would be introduced arising from the minor objections and then they were to be made available on the translation server.

12. Report on Day 1

The Contest started on time at 9:00. The Judging System was unstable for 2 minutes at 13:44 and then for 3 minutes at 13:55. The Contest was extended by 5 minutes as a result. Prior to that, the average queue length was negligible.

Grading statistics: There were 310 Official contestants and 6148 Submissions (Detecting Molecules 1984, Roller Coaster Railroad, 1806, Shortcut 2358).

Per contestant: Minimum 2, Median 17, Average 20, Maximum 72.

Language statistics

Language	Participants	Submits	1	2	3
C++	302	5859	100	100	100
C	17	63	19	34	9
Java	7	137	100	34	23
Pascal	7	89	100	34	23

A graph of grading time statistics was presented, showing greater average evaluation times at 180 minutes and three peaks in the last 50 minutes. Apart from the last minutes of the contest, the peaks were at about 50 seconds but for most of the contest the maximum wait was between 10 and 15 seconds, with an average of 5 to 10 seconds.

Clarifications

There were 38 clarification requests. Most were answered right away. Translated questions took more time (eg: 18 minutes for a question in Spanish that needed 2 translations)

Incorrect Test Data

At 11:34 incorrect test data for Railroad was detected. Data had $n = 1$, while the task statement says $n \geq 2$. Fixing took 20 minutes, and the re-judge took another 20 minutes. At 12:12 an announcement was made. 56 submissions of 23 contestants were affected. The scores of 7 submissions of 2 contestants changed, but did not change their scores due to subsequent submissions.

Issues with Statements

09:14 Detecting Molecules: a function name in the task statement differed from the one in the grader. At 09:20 an announcement was published.

09:46 Roller Coaster Railroad: There was wrong sample test case detected. At 09:55 the correct test was uploaded to the grading system. A re-judge was not required. At 10:01 a clarification was published.

Other Issues

Two contestants requested removal of the spare keyboard. One contestant lost network connectivity for a minute about 3.5 hours in. One contestant's computer was rebooted. The number of contestants was 310. There are 316 on scoreboard but these include 4 students from RUS2 and 2 contestants who did not (and will not) show up.

Reverse engineering: It came to the ISC's attention later that on Railroads there were 22-24 test cases for 30 points and some solutions quickly got to only 5 wrong. The ISC will look into it and update the GA after day 2.

Appeals – none.

13. Presentation of tasks, competition day 2

Three problems were presented: Aliens, Paint by Numbers, Unscrambling a Messy Bug. Solution descriptions were displayed and Paint by Numbers has small subtasks.

Objections: Three minor and one major. The major objection was that Paint by Numbers was similar to one on ICPC a few years ago. The ISC responded that the accepted submissions for it was 11. A request to see the back-up task was rejected.

Option 1: accept all tasks: In favour 57

Option 2: accept the other 2 but reject Paint by Numbers: In favour 12

Abstentions: 8

14. Announcements

The IC has met and reduced the number of competitors by one. Nomination forms should be with the Executive Director.

15. Day 2 Report (Michal Forisek)

By not testing all cases but stopping on the first error there was an 11% improvement in judging. However it is not a true reflection as if there was a low test load, test cases were done in parallel. But if there were many, then each was tested sequentially on one grader.

There was no evidence of reverse engineering.

A student who legitimately started 10 minutes late was relocated so he wouldn't be disturbed as others left. He was granted a further 3 minutes for the relocating.

There was a record low number of students with zero marks.

A similar graph was displayed with submissions generally evaluated in 10 to 15 seconds.

Unscrambling a Messy Bug: The Grader wanted to print output when the Pascal grader was used. This was fixed. It took a while to discover a C++ bug. There were a number of errors which compounded each other. All contestants were affected by the bug so extra time was not allowed when requested by 1 student who said they had lost 5 minutes because of it.

A Polish translation error fix was posted to all as there is no record of which contestant uses which language. Thus everyone had to receive the notice. It may be useful for future hosts to note this.

Observed a hash based on test data (e.g.: if input > 1000, output x else if between 400 and 1000 output y etc.)

Comments:

If the reverse engineering rule had been in place then the behavior above would have disqualified the student. However the ISC believes the student only did it because they could.

The number affected by the bug was 26 and the feedback went from a “run-time error” to “wrong answer”. The HSC worked hard at fixing the bug and apologizes for it.

A question was raised about a full feedback problem for a student. He was using an unsupported compiler and the HSC has no way of preventing a bug in compiler they are not supporting.

There was an extensive discussion about the changed number of official competitors and the expectations of medal boundaries as indicated the scoreboard. A student was ineligible rather than disqualified and later the IC was notified of a second ineligible student. In future leaders will have a tick box on registration that they confirm that the students meet the requirements in the regulations.

A vote was taken as to whether the number of official competitors should be 308 or 310.

Calculates with denominator of 308: In favour 62

Calculates with denominator of 310: In favour 5

16. Candidates' Presentations

The following candidates filed nominations prior to the deadline

ISC: Jakub Łącki (Poland).

IC: Valentina Dagienė (Lithuania), Mathias Hiron (France), Eslam Wageed (Egypt)

ITC (if proposed ITC regulations are passed): Bernard Blackham (Australia) , Karen Hambardzumyan (Armenia) Stefano Maggiolo (Italy) , Martin Mareš (Czech Republic), Frederik Niemelä (Sweden)

All candidates had 2 minutes to introduce themselves to the GA.

17. Confirmation of previous GA minutes

Approved: In favour 52, Against 0.

18. President's report (Krassimir Manev)

a) Off-site participation: The issue arose as Israel appealed for a solution to not being able to participate in Iran. The IC proposed a simple decision to send a representative of the ISC to Israel to organise the team's participation. Ries Kock's Mini Olympiad (MOI) suggestion, made last year, was to have the Israeli team and second teams of neighboring countries attend. This was chosen by the GA over the IC proposal. The MOI was linked to a financial commitment by the IOI. The IC decided to postpone any decision until this meeting and now the offer has been withdrawn. We however received an offer from Innopolis University (Russian Federation) to host the Israeli team.

b) Distinguished Service Awards (DSA): there has been no common approach for choosing who to award and so the president has tried to make a system. There should be a General category that takes into account **all** activities for the IOI. Points would be awarded for, for example, being a team leader for 25 years. The ISC (and ITC) are not eligible while they are serving and there is no time now to change that. But if people don't attend for 2 years, people then forget who they are. So far there is no agreement overall about the system for awards.

c) Acer sponsorship: Whilst the community liked the concept there are conditions set which make a contract impossible as the host country is not willing to fulfill all conditions. If a compromise can't be found then the sponsorship will be postponed for one to two 2 years.

d) Ineligible student(s): The rule is complex and an appeal is made to anyone willing to look at it to re-word. If we can't understand it after 15 years, then something is wrong,

e) Executive Director has resigned and she is thanked.

18. Executive Director's report (Margot Phillipps)

a) Communication with 3 new countries attending IOI 2016 (Iceland, Morocco and Palestine) and with 4 other countries who have not made recent significant progress towards meeting the requirements.

b) Communication with 3 countries, Japan, Azerbaijan and Singapore, confirming them as future hosts after acceptance letters were received acknowledging that the regulations will be adhered to and the Acer sponsorship accepted.

c) Standard Business: Expense approvals, writing minutes for the IC and GA

d) Newsletters: two produced

e) Non Standard Business: Many enquiries were fielded regarding the slowness of invitation letters to IOI2016 in order to acquire visas

f) Resignation: The IC was thanked for the original appointment and the opportunity to serve.

19. ISC report (Jacub Łacki)

During a meeting in February the ISC selected 8 tasks (out of 32) and chose the tasks for day 1 and day 2. Changes to the syllabus were discussed and also a policies for handling issues during the contest and measures against reverse-engineering (such as limited feedback and rules) .

Before the IOI the committee reviewed the contest rules, prepared the survey and proofread the tasks.

At the IOI the ISC helped the HSC run the contest and discussed the procedure and preparation schedule for 2017.

Syllabus changes were signaled and the following topics are going to be included:

- Simple string algorithms (naive pattern matching, building a trie inefficiently)
- Bridges and articulation points
- Strongly connected components

Note that KMP, string hashing, suffix arrays are still excluded. An updated syllabus will be released shortly after the IOI.

Missing translations were also mentioned. Leaders are encouraged to make sure they understand their contestants needs and provide translations if required. Two contestants asked us for translations that were never made.

Discussion: Not all 8 tasks are published as a task may be “rejected” only because it doesn’t fit well with others rather than not so well liked so it is useful to keep it as a backup.

There will be a call for tasks in a week from now. The competition needs easy, medium and hard, not extremely hard tasks. Only a single easy task was submitted this year. If a task is selected, the author will be invited to the IOI.

20. ITC report (Fredrik Niemelä)

ITC is currently a temporary committee (established in 2014)

Current members: Bernard Blackham (Australia), Stefano Maggiolo (Italy), Martin Mareš (Czech Republic), Fredrik Niemelä (Sweden, chair), Aman Sariyev (IOI 2015), Sergey Masyagin (IOI 2016), Hamid Zarrabi-Zadeh (IOI 2017) and Masaki Hara (IOI 2018)

The ITC has three main purposes: To assist the current host (planning and implementation), and developing and maintaining long term tools and systems (such as the mailing list, wiki, task development tools) and finally transferring knowledge and experience to future hosts after observing three years of HTC and ITC work .

The HSC was so good that there was not much need for ITC on the competition floor this year. Some issues the ITC did assist with were setting up the scoreboard and debugging the translation system.

Current outputs include:

- Software available at <https://github.com/ioi/>: Sandbox (Isolate), Translation system, Contest utilities and there will be more.
- A Technical checklist for future hosts: <http://wiki.ioinformatics.org/wiki/HostingAnIOI>
- ITC webpage: <http://ioi.kam.mff.cuni.cz/twg/>

The ITC is currently working on a framework for task quality assurance: General format for task packages, Validation tools, Workflow, Import to CMS (and other systems), Evolution of the format successfully used at ICPC. The ITC hopes to have this ready before February meeting.

Mailing lists:

- ioi-announce – low-volume, moderated, please subscribe
- ioi-discuss – general discussion
- ioi-ic, ioi-sc, ioi-tc – members of the committees
- ioi-ga – members of the GA, temporary list during the IOI
- ioi-training – connecting organizers of regional training (hardly used)
- camps with people interested in teaching
- <http://lists.ioinformatics.org/>

Other Infrastructure:

- <http://wiki.ioinformatics.org/>

- Secure drop-box for task submissions
- Internal ISC/ITC systems

Potential Workshop: A 2017 3 day, extended weekend, workshop is proposed potentially for March in Egypt.

There is a current proposal on the ioi-ga list: to add Python as a second class language, and remove Pascal and C. The number of contestants and countries using Pascal is very small.

The resources on ITC web pages have a link off the IOI website, but it will be changed to make them easier to find. They are useful for local contests.

A discussion on the merits of the Languages change ensued. The ICT's intent was that it should be possible to score points in all problems and a bronze medal placing should be possible with the use of Python but with no guarantees.

Latvia and Luxemburg were invited to respond to the removal of Pascal as their students would be most affected by its removal.

Latvia acknowledged all the extra work required by the ISC in particular to support a less used language. It was proposed that rather than remove it, also move it to 2nd class. Also if it was possible to create a single grader regardless of language, then that would solve some of the problems.

Luxemburg stated they are a small country with 45 participants in their round 1 and 33 used Pascal which is the language used in classical education learn in Pascal. Influencing the curriculum wouldn't be possible in the short term. Luxemburg also favored retaining the language but reducing its status.

The ITC responded that if there is a bug, then it needs to be fixed during the contest which is not desirable. It is preferable to prove it first, thus making it a first class language

An HSC representative stated that most of the technical problems in the contest were produced by the grader system. If we solve the problem with graders then the problems with languages goes away.

The motivations by countries for choosing Python and Pascal were debated at length. Arguments for these languages included ease of learning by younger students and the use in school systems and the ability for new countries to join. It was also proposed that possibly the IOI should try to influence school systems. However Python would not be the language of choice by an expert for efficient algorithms coding.

Concerns about the concept of a second class language were expressed, and in particular the feeling that students should be able to gain 100 in one language without needing to change languages part way through.

The ISC and ITC do not want to put a guaranteed percentage on points that could be gained by a second class language, or have different time limits based on language. Whilst in an ideal world any language could be chosen, the more languages there are the greater the number of errors in a contest and the goal is zero errors.

In order to help the ITC formulate policy a number of non-binding votes were held.

- The only way to add Python is as a second class language: For 38, Against 30.
- Remove C: For Unanimous.

- Add Python and remove Pascal (Wasn't to be split as it was a package): For 20, Against 36.

More discussion ensued and another vote was taken.

Remove Pascal in 3 years' time: In favour 54, Against 6.

21. Regulation changes

Changes were circulated to leaders earlier in the week. The major changes were to include the ITC and to formalise the wishes of the GA in IOI 2015 with regard to host countries being required to invite countries who have participated in the last 3 years.

Vote: for those Regulation changes circulated at beginning of week: In favour 64, against 0.

Last year the GA voted for E5.6 and N5.6 last year but with the agreement that we would explicitly waive this for hosts already selected. (Iran, Japan, Azerbaijan and Singapore). In favour 34, against 9, abstentions 29.

22. Off-Site Competition

This will be hosted at Innopolis University (Russian Federation). One application (Israel) has been approved (Israel) and 2 more applications are pending. The IC has approved a budget of 3000€.

The IOI 2016 HSC and HTC will support it. Activities will be the same as the real IOI. Diplomas and medals will be awarded.

David Ginat (guest, Israel) thanked the GA and the IC for approving this but asked what else any delegations may be asked to pay and will there be B teams from other countries?

There was only 1 formal request on table when the budget discussed and there is no proposal for B teams.

The IC and ISC and ITC approved Sergei Masyagin to oversee the integrity of the off-site competition. Medals would only be awarded to official team members who would normally qualify for a medal.

23. Budget and Financial report (Eljakim Schrijvers)

Expenses exceeded Income by 8700 €. However some budgeted items were not spent (e.g.: The live broadcast, workshop and development) although the journal costs exceeded budget by 1000€.

The accounts have been audited and a signed copy held by the Executive Director. What actually happened in the previous year is reflected in the budget for the following year.

Approve financial report: In favour 67, against 0, abstain 2.

Budget elements were explained, including:

- The Office of the Executive Director's expenses are decreased with lower travel costs expected for an incoming Executive Director.
- Bank charges must be paid on any transfers outside of the Euro zone.
- Although in February the host said the IOI did not need to provide a live broadcast, it didn't happen at the event. It is budgeted for IOI 2017.

Discussion: The GA in 2012 had a straw poll for a smaller conference. So why have the Journal costs increased? The host country paid for the 2nd journal.

Approve Budget: In favour 71, against 0, 4 abstain 4.

24. Registration fee for 2017

A suggestion to reduce it to 100 € was made. However as we are trying to spend some of the large balance this year, Eljakim Schrijvers advised against it for 2017 but we should consider it after that.

Option 1: 200€: in favour 48

Option 2: 100€: in favour 18

Abstentions 7

Registration remains at 200€.

25. Acer Sponsorship

There is an MoU agreed by all parties except one host country who are still in negotiation.

Acer wants to distribute goody bags and memorabilia, have the logo "Powered by Acer" highly visible, incorporated into the hosts' IOI logo and they also want to bring more young people into the field. Other non-hardware sponsors are allowed (Japan has an exception for Fujitsu)

26. Flag rule

The rule about this is vague and was effectively to avoid international disputes. It is felt that the spirit has changed that it is now important to observe it so that flags unfurled on the stage don't obliterate photo opportunities for other medal winners.

The IC asked the GA to contact them if they wished to contribute to a rule change or wished to retain the status quo. Another option is to keep and also enforce the rule.

IC to discuss the regulation and bring back to the GA next year: In favour 63, Against 0, Abstentions 5.

27. IC Election (Approval voting)

There were 77 ballots of which 1 was spoiled.

The outcome of the election for the IC positions was as follows

- 36 delegations approved of Valentina Dagienè,
- 51 delegations approved of Mathias Hiron,
- 39 delegations approved of Eslam Wageed.

Mathias Hiron and Eslam Wageed were elected to the IC for a period of 3 years.

28. ISC Election

Jakub Łącki (Poland) was elected unopposed for a period of 3 years.

29. ITC Election

As this is the first election, the IC asked the GA to approve one round of approval voting. The 1st place takes the 3 year position, the 2nd place takes the 2 year position and the 3rd placed takes the one year position.

Accept one round of voting as proposed: In favour 68, Against 1, Abstain 4.

There were 78 votes cast, none were spoiled.

The outcome of the election for the ITC positions was as follows

- 58 delegations approved of Bernard Blackham
- 59 delegations approved of Stefano Maggiolo
- 14 delegations approved of Karen Hambardzumyan
- 41 delegations approved of Fredrik Niemelä
- 62 delegations approved of Martin Mareš

Martin Mareš is elected for 3 years, Stefano Maggiolo for 2 years and Bernard Blackham for 1 year.

30. Results and Confirmations. (ISC)

There were 308 official contestants so 154 medals will be awarded. 81 teams competed.

26 gold medals (308/ 12) and 51 silver medals (308/ 6) (both rounded up) .

The gold cut-off was at a score of 416, and scores 328 to 414 gained silver and were ranked 27 to 77.

78 bronze will be awarded, for students ranked 78 to 154 with scores 240 to 320 inclusive.

Approve Results: In favour 72, 1 abstention.

31. Presentation by MIT last year

The GA asked the IC to look into how universities might showcase their opportunities at an IOI. The current host could not provide a venue this year but the IC is still to consider options.

32. Proposals by GA members

A. Less conference time and more explicit time (e.g.: Birds of a Feather sessions) for informal collaboration or for GA meetings which should be less pressed for time. The IC will discuss.

B. With a country being found to have no eligible contestants, do we have 80 or 81 countries? The technical answer is that a delegation has 1 to 4 contestants, but the IC needs to discuss the matter.

C. The feeling by one country that it had “lost” a medal when competitors were found to be ineligible highlights the need to improve the awareness that the scoreboard is not official.

D. Fee for Guests: There was a request that it be standardized as either Euros or US\$.

E. Paper less problem statements. It was trialed for one year but as leaders advised their contestants to print, there was a delay in distributing paper copies. The ISC offered to include this issue in the survey and if a majority want paperless, then we should offer it. Sometimes there are translation errors so having the English one to check the constraints in is useful. The number of printouts is quite low and often is requested just as a means of getting paper to plan on. There is a logistics problem of ensuring solutions printed are delivered to the correct contestant.

F. Task originality (Mihal Forisek)

The landscape is changing as the number of contests is growing. The ISC can't know all the problems in existence. The goal to have completely original problems yet reasonably easy to solve are in conflict. So we should lower our expectations of originality. At an IMO Contestants should know how to solve several easy problems each day and the others should be interesting. For the IOI we still want originality but it shouldn't be a major problem if it has been seen before (e.g.: DP on a tree may have 100 such problems written now).

Discussion: It would be preferable if the problem was last used 10 years ago rather than 6 months ago. The ISC can try to check on originality but cannot be certain.

If the first subtask was a known problem it engages the lower part of the scoreboard.

A Straw poll was taken whether the task could contain original problems but contain known algorithms. 57 in favour, 0 against.

G. An Official grader with all past problems for students to train on, using functions rather than standard input and output. The ITC responded it is a work in progress. The HTC responded this has been on Yandex for 2 years and they would be happy to receive feedback on translations.

H. Booklets of solutions for previous years – some are missing such as 2013. It is now in the regulations that the host country should provide these in the future. For missing solutions, work with past hosts and the ISC.

I. Food during contest should be handled better, particularly if there are diabetic students. There should be general guide lines for all hosts. The IC will discuss this in February.

J. Graders. The HSC raised the amount of work with the graders. This year for 5 of the 6 problems, all the grader did was read input and write output of the solution. It was necessary to ensure, for example, that the contestant grader was consistent with the judging one and that they were consistent across languages etc. The ISC responded that the reason to have graders is to ensure input is read in correct way. For example, java can have input read in a slow way. The ISC and HSCs will discuss.

K. For IOI 2017 the days advertised have a 3 day overlap with the IMO. Iran responded that the new date is from July 28 (almost confirmed). The current incorrect dates are showing on the IOI website as approved. Mārtiņš Opmanis offered to make the correction. The IC agreed it needs to monitor using “approved” when publishing the dates, as the hosts may change them.

L. For IOI2016 there has been an “army of slaves” working on tasks, data, servers and everything progressed very smoothly. The HTC and HSC were applauded, along with the host organising committee.

The meeting closed at 12.48