

1. Preambles

- 1.1. These Rules cover Competition Procedures. This draft may be revised to address omissions or inconsistencies, but will not change substantially.
- 1.2. The terminology used in this document is from IOI Regulations.
- 1.3. Delegation Leaders have the responsibility of ensuring that all members of their delegation fully understand these rules and abide by them.

2. Competition Schedule

- 2.1. There will be six competition days. On each day, contestants will be given three tasks to complete in four or five hours.

3. Tasks

- 3.1. Each contestant will receive the English or Russian text of the tasks on each contest day.
- 3.2. In addition, each contestant will have online access to the English text of tasks and in electronic format (PDF).
- 3.3. The number and kind of files that the contestant must submit as a solution (for example, "source code of the program in a text file") will be specified in the task statement.
- 3.4. Direct access to any file, excluding standard input and standard output, is forbidden. In some tasks reading from file and writing in file this could be not necessary at all because data will be exchanged through the interfaces specified in the task statement
- 3.5. Each task will be checked on set of single test cases or/and groups of test cases with specific properties (subtasks), each worth a portion of the total points. Points for subtask will be assigned only when all test cases of the subtask are solved.
- 3.6. Time limit for a single test case and memory limit will be specified for every task. When few tests are grouped in a subtask then time limit is applied for each test case in the group separately. The memory limit is on the overall memory usage including executable code size, stack, etc. In general, time and memory limits will be generous.
- 3.7. All necessary files regarding the statement of a task as well as electronic documentation or reference manuals will be provided through the grading system.

4. Practice Session

- 4.1. There will be a two-hour Practice Session prior to the first competition day, to familiarize all contestants with the grading system.
- 4.2. Contestants may bring printed solutions to the practice tasks, on paper only, during the Practice Session.

5. Competition Equipment and Environment

- 5.1. Contestants can use computers with Windows or Linux operating systems.
- 5.2. The Grading system of the Contest is provided by Yandex.Contest.

6. Supplies

- 6.1. In the competition room, working paper and writing tools will be provided. On the competition days, contestants may not bring anything into the competition rooms, except for the following items under the provision that they cannot transmit or store any data in electronic or printed format (other than the purpose for which they have been designed):

- clothing,
- reasonable jewelry,
- keyboards (without wireless and/or calculation functions),
- small mascots,
- English dictionaries.

6.2. If a contestant wants to bring a keyboard, small mascots or English dictionaries to the competition, these must be submitted to the technical staff during the practice competition day. Any of these will be checked and, if cleared, will be given to the contestant in the first competition day. After the first competition day, the contestant must leave these items on his or her workstation if he or she wants to use them during the next competition day. Once again these will be checked and, if cleared, will be given to the contestant in the next competition day. After the last competition day, the contestant must take all of these items with him or her.

6.3. Any attempt to bring any other item into the competition room will be considered cheating. In particular, during competition rounds it is strictly prohibited to bring:

- any computing equipment (e.g. calculators, laptops, tablets, smart watches, activity tracker, and not presented in advance keyboards),
- any books, manuals, written or printed materials,
- any data storage medium (e.g., CD-ROMs, USB drives, flash cards, micro-drives),
- any communication devices (e.g., mobile phones, radios of any sort).

7. Competition and Grading

7.1. All contestants must wear their ID badges during the competition.

7.2. Each contestant will have a pre-assigned workstation. The workstations have network access to the grading system, as well as facilities for printing.

7.3. Contestants should be in their seats at least 5 minutes prior to the start of the competition. Contestants must find their assigned computer, sit down, and wait for the competition to begin without touching anything (such as keyboards, mice, pen or paper).

7.4. Contestants must submit their solutions for tasks by using the grading system.

7.5. During the competition, contestants may submit written questions concerning any ambiguities or items needing clarification in the competition tasks. Questions and comments must be submitted through the grading system or on the provided Clarification Request Forms, expressed either in the contestant's native language or in English. If required, delegation leaders will translate their contestants' questions into English after they are submitted and before they are sent to the Scientific Committee. The Scientific Committee will respond to every question submitted by the contestants during the competition. Since this might take some time, contestants should continue working while waiting for the answer to their questions.

7.6. Contestants should phrase their questions so that a yes/no answer will be meaningful.

7.7. Questions will be answered with one of the following without any translation (so the contestant has to know their meaning):

- "YES"
- "NO"

- “ANSWERED IN TASK DESCRIPTION (EXPLICITLY OR IMPLICITLY)” - The task description contains sufficient information. The contestant should read it again carefully.
- “INVALID QUESTION” - The question is most likely not phrased so that a yes/no answer would be meaningful. The contestant is encouraged to rephrase the question.
- “NO COMMENT” - The contestant is asking for information that the Scientific Committee cannot give

7.8. There is no restriction on the number of times a program may be edited, compiled, and run on the workstation.

7.9. Grading and evaluation take place on the grading system, which provides a same execution environment to that of the contestant workstation. Grading workstation will have the same hardware and software configuration as contestants' workstations (without programs for monitoring and the grading system)

7.10. To avoid overloading the grading system, there are two restrictions on the number of submissions:

- Contestants may submit a solution to each task at most once per 30 seconds.
- Contestants may submit at most 100 solutions for each task for each contest day.

7.11. Each submitted source program must be written in C++ ONLY, it must be smaller than 256 KB, and the evaluation server must be able to compile it in less than 10 seconds and at most 256 MB of memory.

7.12. Contestants can use the grading system to view the status of their submissions and get a short report on the compilation errors of their source code.

7.13. Full feedback will be available for some of some tasks, indicating whether each single test case or subtask has been solved. For the other tasks a partial feedback (for at least one test case) will be given.

7.14. The score for each submit will be the sum of scores of solved test cases and/or groups of test cases. The final score for a task will be the maximum score of a submit across all submissions.

7.15. If a test case, which is chosen for feedback, is not solved, then the grading system will give the feedback, which will be one of the following (feedback is not translated and each contestant should understand its meaning):

- OK – submission is accepted,
- WA - Wrong answer,
- CE - Compilation error,
- RE - Run-time error,
- TL - Time-limit exceeded,
- ML - Memory limit exceeded.

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.

7.16. It should be noted that the score reported in the full feedback is only provisional. There are two ways how this score may change after it has been reported to the contestant:

- Due to a successful appeal after the contest.
- In some cases the contestants' submissions may be re-evaluated. This re-evaluation may sometimes lead to a different total score. (E.g., if a solution behaves nondeterministically or runs very close to the time or memory limit.) In such cases, the final score for the submission is the score for its latest re-evaluation. This change in scoring cannot be appealed. Note that the final score for each task is still the maximum score over all submissions.

7.17. Contestants may ask the support staff for assistance at any time. The staff members will not answer questions about the competition tasks, but will deliver Clarification Request Forms and printouts, help locate toilets and refreshments, and assist with computer and network problems. The only manner in which contestants are allowed to access the network is via the grading system: even running a single “ping” command is strictly prohibited and may lead to disqualification.

7.18. Contestants should never attempt to fix or debug or even check computer or network problems themselves; instead, they should ask for assistance.

7.19. Three warnings will be given at 30 minutes, 15 minutes, and 5 minute before the end of the competition. Each warning will be given by an audible signal. The end of the competition will be announced both verbally and by an audible signal. At the announcement ending the competition, contestants must immediately stop working and wait at their desks without touching the computers or anything on their desks. An additional announcement will be made instructing them to leave their tables and exit the competition room.

7.20. At the end of the first competition, any previously submitted items a contestant would like to use during the next competition should be put in the provided plastic bag. All other items should be taken out of the competition hall, including printouts. At the end of the second competition, contestants should remove all personal items including their mascots and dictionaries or any other previously submitted item; nothing should be left behind.

8. Cheating

8.1. Contestants must use only the workstation and account assigned to them on each competition day. In particular, contestants must not:

- attempt to submit illegal programs as discussed above, nor try to tamper with or compromise the grading system;
- attempt to gain access to root or any account other than the one assigned to them;
- attempt to store information in any part of the file system other than specified by Contest Environment;
- touch any workstation other than the one assigned to them;
- attempt to access any machine on the network or the Internet, other than to submit tasks and view submission results through the grading system;
- attempt to alter the boot sequence of any workstation;
- communicate with other people during the competition, other than the staff and/or Scientific Committee members.

All of the above actions are considered cheating and may result in disqualification.

9. Appeal Process

9.1. Provisional grades, based on tests, are available immediately to competitors. 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.

9.2. The hidden test data will be made available electronically in the competition area during the scheduled time after second competition day. Contestants and team leaders may use the contestant's workstations to verify that the grades are assessed correctly.

9.3. A Team Leader may file an appeal by completing an Appeal Form, and submitting it to the Scientific Committee at least 30 minutes prior to the final GA meeting of that competition day. The GA will be informed of where Appeal Forms can be collected, and where they can submit them to the Scientific Committee. Every appeal will be reviewed by the Scientific Committee and the Team Leader will be notified of the committee's decision. All appeals and their disposition will be summarized at the final GA meeting of that competition day.

9.4. 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.