

# **Technical regulations of the “Tuymaada” International Olympiad in Informatics in 2022**

## **1. General regulations**

- 1.1. Technical regulations of the “Tuymaada” Olympiad in Informatics in 2022 (hereafter referred to as the Technical regulations) were designed in accordance with Regulations of the “Tuymaada” International Olympiad (hereafter referred to as the Regulations).
- 1.2. In the program of the Olympiad (accessible on <https://tuymaada.lensky-kray.ru/>), starting and finishing time are given in Moscow Standard Time (UTC +3).
- 1.3. In case of violation of the Technical regulations, contestant may be disqualified by a jury’s decision.
- 1.4. The Jury and the organizing committee of the Olympiad reserve the right to add changes to the Technical regulations provided that all interested parties are notified of the changes via e-mail and announcement on the official website of the Olympiad.

## **2. Registration**

- 2.1. Contestant must read the Regulations and the Technical regulations and register on the official website of the Olympiad until 19 of June.
- 2.2. In case of giving wrong personal information on the registration, one might not be allowed to participate in the Olympiad.

## **3. Proctoring**

- 3.1. Contestant agrees that during the competition all their actions will be monitored by a special software (hereafter – the Proctoring system) and by a designated person (hereafter – the Proctor). The proctoring system will be recording the whole process including video capture of the contestant’s computer display.
- 3.2. The contestant must prepare their workstation according to the minimal requirements shown on the following table:

<b>Parameter</b>	<b>Minimal requirements</b>
Workstation	PC or laptop with a broadband Internet connection no slower than 5 Megabits per second.
Media equipment	Two webcams with resolution no less than 640x480 and FPS no less than 15, microphone and headphone (loudspeakers).
Web browser	Chrome 72, Firefox 66, Edge 79 (no extensions)

Compilers and IDEs chosen by a contestant	<ul style="list-style-type: none"> <li>● GNU G++ 5.1.0 or later versions</li> <li>● Microsoft Visual C++ 2017 or later versions</li> <li>● Free Pascal 3.0.2 or later versions</li> <li>● PascalABC.NET 3.4.2 or later versions</li> <li>● Python 3.8.10 or later versions Microsoft C# 8 и .NET Core 3.1 or later versions</li> <li>● Oracle Java SE Development Kit 11.0.6 or later versions</li> </ul>
Offline documentation system Zeal ( <a href="https://zealdocs.org/">https://zealdocs.org/</a> )	Documentation sets are chosen by the contestant.

Contestant is permitted to use text editors and other utilities provided that those do not use an Internet connection and do not communicate to anyone. Team leader is obliged to check that all workstation requirements are met.

- 3.3. Contestant is permitted to participate only if they show their ID to the Proctor via a frontal webcam (ID must clearly show the contestant's face and full name) before the contest on both competition days.
- 3.4. Before the contest upon the Proctor's request, contestant must show their workstation and lack of any additional electronic devices, information mediums etc. via the side webcam.
- 3.5. The proctor has a right to make a remark and inform The Jury of a violation of the Technical regulations or of the Code of Conduct (see Appendix A), which may result in contestant's disqualification.

#### 4. The Olympiad

- 4.1. The Olympiad consists of two competition days. Contest on each day lasts 5 hours.
- 4.2. A practice round will be held for the contestants before the competition days to check if workstations are ready.
- 4.3. On each competition day contestants will be given 4 or 5 problems. Full score for each problem is 100 points. Problems are made by the methodical committee and problem statements are presented both in Russian and English. In addition, team leaders can translate the problem statements to other languages on the competition days. The methodical committee bears a full responsibility for a correctness of problem statements in Russian and English. If necessary, contestants are encouraged to refer to the Russian or English problem statements.
- 4.4. Upon the competition's end (on both days), the organizing committee publishes preliminary protocols on the official website of the Olympiad.

- 4.5. Upon the competition's end (on both days), contestants can access test data to problems in digital form.
- 4.6. Solutions are evaluated by an automated judging system (hereafter – the Judging system). Web-link, login and password to the Judging system are sent individually to each contestant via a registration e-mail.
- 4.7. Solution of a problem is a single source code file written in one of the approved languages via an approved IDE. Different problems may be solved in different languages.
- 4.8. All problems require the input and output from/to the console (read from the keyboard, write to the screen) by default. However, author of the problem may require the input and output via files. The I/O method is declared at the beginning of the problem. The inputs are to be taken as correct and satisfying all the constraints in the problem statement, contestants do not need to validate it. I/O formats are to be strictly adhered to.
- 4.9. The memory and time limits on each problem are indicated in the problem statement and will be enforced on each test. A solution which exceeds the limitations on a test will be considered as failing that test.
- 4.10. The solutions are evaluated during the competition time. Verification of the solution is carried out in the following sequence:
  - the system compiles the source file,
  - the solution is sequentially run on the test data for the problem,
  - the generated output data is verified by the checker program provided by the author.If source file could not be compiled, Compilation error (CE) is triggered, and the solution gets 0 points.
- 4.11. A problem statement may consist of subproblems in which case each subproblem has its own test set (tests do not overlap). The Judging system can evaluate the problem in one of two ways (according to author's discretion):
  - points are yielded for each passed test,
  - points are yielded only if the whole test set is passed.The author can set dependencies between test sets. If a test set depends on other test sets, it can be run only after those test sets are passed.
- 4.12. Upon the completion of the solution testing, the contestant can see the test results. Each passed test (test set) yields points. Solution that passes all tests receives 100 points. If a test is failed for any reason (wrong answer, time limit exceeded, etc.), it is given 0 points and further tests are not run.

4.13. The Judging system returns verdict for each test from:

- OK
- WA – Wrong answer,
- ML – Memory limit exceeded,
- TL – Time limit exceeded,
- RE – Runtime error.

4.14. The problem's author can choose to limit contestants' information on test set.

If so, contestants can see only total points for a test set (not individual points for tests).

4.15. Multiple solutions can be accepted for the same problem, and the highest scoring solution is considered for the results.

4.16. Contestants may use any standard library header files (modules) included in a compiler (interpreter).

4.17. A solution must not:

- use system calls except for I/O,
- create directories or temporary files,
- use I/O not specified by the problem statement,
- access the network,
- attempt to disrupt the Judging system.

4.18. A solution must generate the same output for multiple runs on the same input data regardless of the current time or environment configuration. The Jury may conduct multiple runs of the solution and choose the worst result for each test.

4.19. Should hardware or software of the contestant fail during the competition, The Jury may compensate the time spent on troubleshooting it, provided that the failure has not been caused by the contestant's actions.

4.20. The determination of passing the tests, scoring, awards and disqualifications is the exclusive prerogative of The Jury. The Jury will decide on any unforeseen circumstances. The Jury decision is final.

4.21. Should a contestant have health risks, they should be able to get a fast medical aid.

## 5. Appeals

5.1. Appeals are held for both competition days at the same time.

5.2. Before the appealing process, correct problem solutions are demonstrated.

5.3. Contestants may try to appeal to The Jury no later than an hour after the solution demonstration. Appealing is done through forms downloaded from the official website of the Olympiad.

5.4. Decisions of the appeals committee are final.

## Appendix A

### **Code of conduct of the contestants**

1. 15 minutes before the competition start, contestants must log into the Proctoring system.
2. During the competition time, contestants can use only:
  - the official Proctoring system,
  - the Judging system on the platform <https://codeforces.com>,
  - installed IDE from the list (see 3.2, online IDE are not permitted!),
  - the offline documentation system Zeal with already installed docsets,
  - electronic means to track health (ex.: glucometer).
3. During the competition time, contestants **MUST NOT** use:
  - websites not mentioned above,
  - network drives,
  - software that allows data communication (e-mail, messengers etc.) except for the mentioned above,
  - communication devices (mobile phones, smart watches, etc.),
  - other electronic devices or data storage devices (programmable calculators or keyboards, CD-players, MP3-players, flash drives, etc.),
  - other computers (laptops, smartphones, electronic books, tablets, etc.)
  - any study materials (including one's own notes).
4. Before and during the competition, contestants **MUST NOT** share their logins or passwords, attempt to access other contestants' data, attempt to enter the Judging system with another's login.
5. Contestants may use clean sheets of paper, clean notebooks and writing utensils – pens, pencils, erasers, compasses, rulers.
6. If a contestant needs to use medication during the competition time, the organizing committee must be warned beforehand.
7. Preferably, no one must be in the contestant's proximity during the competition. If that is not possible, no one may interact with the contestant except for medical aid.
8. During the competition, the contestant may communicate only with the Jury or the organizing committee (including the Proctor) using the Judging system or the Proctoring system's chat. The contestant may ask questions to the Jury in written form in Russian or English that can only be answered by "Yes" or "No". If the question is invalid or the answer is evident from the problem statement, the Jury will respond "No comment". Should an error or ambiguity be found in the problem statement, the Jury will issue a clarification to all contestants.
9. Contestants must follow the instructions of the Jury and organizing committee members. During the competition, contestants may leave their workstation upon notifying the Proctor and getting their permission.
10. Should an emergency arise that prevents further participation in the competition, the contestant must communicate that to the Proctor.