Regulation of Organization and Deployment of the Contest of Computer Science "Adolescent Grigore Moisil - AGM"
Edition VIII

I. Overview

Art. 1. This regulation contains provisions on the organization and conduct of the "Adolescent Grigore Moisil - AGM" International Computer Science Contest. The competition has two stages:

1. An online Qualification Stage consisting of one round, and

2. A Final Stage consisting of two final rounds. We aim to organise the The Final Stage onsite, but it could also be organised online (see Art. 7.).

The date and time of all rounds will be announced on the official website. The location will be announced at a later date, no later than 45 days before the Final Stage.

Art. 2. At this contest, students from IX-Xll grades can participate, both from Romania and abroad. The students have to be aged 14-21 years at the date of the Qualification Stage.

Art. 3. (1) Each team is composed of a maximum of 3 students who will nominate one of the members as the leader. The leader has the duty of communicating the list of team members, transmitting the data in accordance to the deadlines published by the organizers, both in editable format (Excel), as well as scanned, and takes responsibility for being the contact person for the organizers, having as a main task the constant communication with the team members.

(2) A team can be defined in 3 different ways:

1. Romanian Team, which is composed of exclusively high school students matriculated in high schools based in Romania.

2. Mixed Team, which is composed of at least one member matriculated in a high school based in Romania, and at least one member matriculated in a high school based outside the Romanian territory.

3. International Team, which is composed of exclusively high school students matriculated in high schools based outside the Romanian territory.

II. Structure of a round

Art. 4. (1) Each round will be hosted on the platform of the contest (which is a modified clone of DomJudge). A manual of this platform can be found on the internet for free. However, not all of the features exposed on the manual are going to work during the contest

(e.g. submit via terminal). You should make the reasonable assumption that the main functionality which is strictly necessary during the contest is going to work as expected.

(2) As stated in Art.3, each team will have at most 3 members.

(3) Each team will use exactly one PC (having exactly one keyboard and exactly one mouse). This rule is not applicable for the Qualification Stage --- in fact, this is replaced with the restriction that we'll monitor the IP's from which a particular team is logged in on the platform. If there are strictly more than three different IP's per team, that would lead to the disqualification of that particular team.

(4) The length of each round is 5 hours. The organizers reserve the right to extend the length of the round in case of any technical/scientific issues arising.

(5) The Qualification Stage is going to be frozen after 4 hours have elapsed. The same applies for the first day of the Final Stage. The second day of the Final Stage is going to be frozen after 3 hours have elapsed. However, the organizers reserve the right to adjust these figures during the contest (due but not limited to any technical/scientific issues arising). In this context, by freezing is meant the fact that the live scoreboard no longer changes. This won't affect the benefit of full-feedback for the teams (see (10)).

(6) Each round will consist of 9 - 14 tasks having a custom time-limit and a custom memory-limit. The structure of the tasks is decided by the Contest Scientific Committee, based on the competition schedule from the International Olympiad in Informatics of the current school year. Additional knowledge of the curriculum could be used (and could also be necessary) to solve the round problem set.

(7) For each submission to a problem there are two possible outcomes: accepted (a correct verdict) or rejected (a non-correct verdict). The former will result in a correctly solved problem (unless not correctly solved before).

(8) The score of the team is represented by the number of tasks correctly solved. In case of a tie, the teams will be ranked by the increasing order of penalties. The penalty of a team is the sum of the penalties of all the tasks correctly solved by the team. The penalty of a correctly solved task is defined according to the following formula: 20 * (the number of unsuccessful attempts before the task was solved correctly for the first time) + time elapsed from the start of the contest until the task was correctly solved for the first time (expressed in minutes). There is no penalty for submissions resulting in compiler-error or too-late. There is no penalty caused by submissions to a task that hasn't been correctly solved by the team.

(9) There will be a real-time (up to the freezing point; see (5)) scoreboard where each team is able to see its position relative to the other participating teams.

(10) Each team is going to have full-feedback for each submission sent. That means that the team will always know the verdict of the submission shortly after it has been sent, no matter whether the scoreboard is frozen or not.

(11) During the entire duration of a round, the participants can ask questions using the online platform on which the round will be hosted.

(12) The programming languages supported are going to be C, C++ 11/14/17, Python3, Pypy3 and Java. However, we could only guarantee that for a problem there exists a solution which fits in the given limits (time-limit and memory-limit) only for C++ (all available versions) and Java.

(13) There is no possibility of appeals in any of the competition's rounds.

(14) The organizers reserve the right to modify tasks, to make announcements, to re-evaluate any submission and to make any decision which would protect the integrity, the correctness and the fairness of the round.

(15) For the online rounds, the participants are having the right to use code previously written by them with the mention that they are completely responsible in case of any collusion between a source code sent by them and a source code sent by another team occurs, which would lead to the disqualification of the involved teams.

III. Qualification Stage

Art. 5. The Qualification Stage consists of one round which will take place online via accessing the platform communicated by the organizers. The teams will receive an e-mail containing the login data one day before the Qualification Stage.

Art. 6. **General Overview regarding the qualification to the Final Stage:**

(1) After the Qualification Round ends, the scoreboard will be unfrozen and the organizers will publish on the official website the results of the round: the list of participating teams in decreasing order of the number of tasks solved, and in case of equality, in the increasing order of the penalties (according to the calculation method explained in Art. 4.).

(2) The organizers will also compute 2 different ranking boards sorted in the same way as described above:

1. The first one will contain all the Romanian Teams (as defined in Art. 3.).

2. The second one one will contain all the Mixed Teams and the International Teams (as defined in Art. 3.).

(3) The teams that qualify to the Final Stage of the competition are the **top 20** teams from the first ranking board (Romanian teams), and the **top 6** teams from the second ranking board (Mixed and International Teams).

(4) The qualified teams will receive an email from the organizers shortly after the results are published. In order to be officially qualified to the Final Stage, it is **required** and **mandatory** to confirm the place by replying to the email sent by the organizing team. The

deadline for confirmation is **5 days** after the email has been sent. If the team does not confirm the place for the Final Stage, that team will not be eligible to compete and the organising team will contact the next team on the ranking board via email. The latter will also be required to satisfy the same rule stated above (5 days to confirm the place).

(5) For being transparent in front of the attendees, the organising team will update the status of the confirmations in real time on the official website: agm-contest.com.

(6) A team, once ranked qualified and confirmed for the Final Stage, has the requirement to announce the organising team about any change of plans 2 days before the Final Stage. If the team does not respect the rule, each member will be banned from participating in the next 2 AGM editions.

(7) Any team that competes in the Final Stage with different team members than the ones registered in the Qualification Stage will be banned from competing.

IV. Final Stage

Art. 7. Due to the pandemic period caused by Covid-19, we mention that there are 2 scenarios regarding the conduct of the Final Stage of the competition:

1. The Final Stage will be organized onsite at a location established and communicated to the participants at least 45 days before the contest.

2. The Final Stage will be organized entirely online. The organizers will provide the finalists with a tailored set of rules for that specific situation, which will be sent at a later date, no later than two weeks before the date of the Final Stage.

Art. 8. (1) The Final Stage consists of two final rounds that will take place in two consecutive days.

(2) As stated in Art. 4., the scoreboard of the first final round will be frozen after 4 hours, and the scoreboard of the second final round will be frozen after 3 hours.

(3) Unlike the Qualification Stage, after the first final round ends, the scoreboard will **not** be unfrozen and **no** results will be published.

(4) After the second final round ends, the scoreboards from both final rounds will be unfrozen and published on the official website. The organizers will also compute and publish the final results of the competition by summing up the number of tasks solved by each team in the two final rounds, and by summing up the penalties from the two final rounds. The list of the teams will be sorted in decreasing order of the total number of tasks solved, and in case of equality, in the increasing order of the summed up penalties.

(5) In case the Final Stage is organised onsite, each participating team has the right to use its own keyboard, with the prior approval of the Contest Organizing Committee. For

approval, the Committee will ask the teams to take the keyboards for verification in the morning of the first day of the contest, at least 2 hours before the start of the round, at the respective places indicated by the organizers.

(6) In case the Final Stage is organised onsite, each participating team has the right to have at its disposal a file containing no more than 25 sheets (one-sided) of A4 format, representing auxiliary materials that may be useful in solving the tasks. The content on each page must be visible and understandable from a distance of at least 50 cm. Any failure to comply with the above-mentioned rules and the use of a tendentious language leads to the disqualification of the team from the competition. For the approval, the committee will ask the teams to take the materials for verification in the morning of the first day of the contest, at least 2 hours before the start of the round, at the respective places indicated by the organizers.

(7) In case the Final Stage is organised onsite, each team will be provided and forced to use a single computer having exactly one keyboard and exactly one mouse. Moreover, there will be a printing facility which will allow the contestants to print out their source codes on paper.

V. Prizes and Awards

This is applicable only for the Final Stage.

Art. 9. (1) Top 10 teams will receive diplomas according to their final rank position.

(2) The prizes for the Final Stage and the criteria of awarding those prizes are going to be announced on the official website by the organizers, no later than two weeks before the date of the Final Stage.

VI. Final provisions

Art. 10. The organizers will announce the sign-ups and the number of available places for the participating teams and will publish after the qualification stage both the number of qualified teams and their composition.

Art. 11. The organizers of the contest reserve the right to disqualify from the competition any team with the obligation to justify that to the team. Reasons include, but are not limited to, harassment, racism, or anything which could put at risk the image or the integrity of the contest.

Art. 12. The organizers of the contest reserve the right to withdraw the awards obtained by a team retrospectively, if it is found that the respective team had attempted to commit fraud during the contest.

Art. 13. The organizers of the contest reserve the right to modify the outlined herein competition regulations, having the obligation to announce the changes made no later than two weeks before the date of the contest, through the official website.