INTERNATIONAL INFORMATICS OLYMPIAD IN TEAMS

REGULATIONS

Approved by the International Committee IIOT
Egypt, Hungary, Italy, Romania, Syria
the 5th of October 2023

INTRODUCTION

The Olympiad is organized by an International Committee, which consists of the representatives of the countries which are regular participants. Regular participants are the countries which, in turn, organize the International Olympiad. At present the representatives of Italy, Romania, Egypt, Syria and Hungary are regular participants, as founding countries of the competition (Italy and Romania) and full members (Egypt, Syria and Hungary). According to the rules accepted by the initiators of the IIOT, any other teams can be invited as **regular** participants, if they become full members of the organizational committee, so they will also be hosts of the final future editions of IIOT. Moreover, the host country may invite **guest** participants from other countries. The guest teams will, in certain situations, have to pay a participation fee.

English is the official language for all communication: documents, problems texts, website, emails and appeals.

IIOT logo, name and trophy are property of the International Committee and can be used only under its formal written permission and never for commercial use.

GOALS

IIOT aims at motivating secondary school students to get more interested in informatics and information technology in general, test and prove their competence in solving problems with the help of computers, exchange knowledge and experience with other students of similar interest and qualification, establish personal contacts with young people of other countries.

The primary objective is to stimulate the interest of young people in Computer Science and Information Technologies alongside the Individual Computer Olympiad.

More and more often, the work world operates in contexts in which working groups (or teamwork) are made up to carry out specific projects or activities. The ability to work in groups, therefore, becomes a prerequisite for all those who move in the current labor market. Today's organizations, as a matter of fact, aim a lot for group work as a strategy to achieve better results under collective talents of the team, the ability of members to support each other to overcome the difficult times, the ability to multiply the options thanks to the creativity that comes from the comparison of different ideas. The teamwork skill becomes a requirement by companies that select personnel, but not only; assuming that in all workplaces, or nearly so, you need to interface with other people to carry on your own activities, it is clear that establishing this capability could lead to a better life working environment and improve the level of performance.

GENERAL REGULATIONS

Each team is coordinated by one team leader. The teams will be registered in the competitions by their coordinating team leader.

Only the cost of travel to and from the place of the competition should be paid by the first winning team (4 students and a teacher) of each National Final Competition, the leader school team (4 students and a teacher) and by each national committee (4 people); all local expenses are covered by the institutions from the host country.

Accompanying persons and observers are welcome, but they should pay for their stay. Interested people are advised to contact the local organizers.

Only the computers and software with built-in help facilities provided by the organizers may be used in the competition. The host country shall provide software (including the operating system) localized in English. Each team may bring and use their own mouse and keyboard, provided that they are approved by the host scientific committee.

TEAMS

The contestants are students enrolled in a school for secondary education/high school, in the country they are representing, during at least September- December in the year before IIOT final and who are not older than 20 on July 1st of the year of IIOT final. Students who are studying abroad may represent the country of their nationality.

If all members of a team have a nationality other than the country of their school, or the team represents a linguistic minority school, then the team may represent the foreign country, if allowed by that country. In such cases, the team can only participate in one country's qualifying contest, and they must choose before the start of the preliminary online competitions.

Each team is composed of 4 students and 2 reserves for replacement, if needed. A team can include no more than **one** awarded contestant of the National Individual Olympiad in Programming in the previous year (for practical purposes, the teams' composition refers to the last available results of the National Individual Olympiad). There cannot be any student exchanges between teams. A team cannot be composed of students from different schools.

If, and only if, a national organization has in charge all the management (see next point in Regulations: *"The International Committee"*), students must come from the same institution or region in the mandatory spirit of preserving the single teams that competed in the national context.

Teams attending the International Final are directly selected by the country they represent according to its own rules. It is mandatory for regular countries to have a form of national qualifying contest in presence.

THE INTERNATIONAL COMMITTEE

The International Committee (IC) is the engine of IIOT; it consists of the representatives of the countries which are regular participants. Each country is represented by a national committee that consists of four people: the representative of the Ministry of Education or another appropriate institution, the scientific coordinator and the headmaster and a teacher of the leader school.

The competition is born and has to remain a competition between schools, so we consider mainly schools as representatives and managers of each national championship. If, and only if, the national school curriculum does not provide for programming, a national

organization might have in charge all the management. In this case, the national committee will consist of the president and a qualified member of the national organization, instead of the headmaster and the teacher of the leader school. In this case, no team from the leader school will be present at the International final, nor the team's coach. In this case, the national organization may have the same privileges as a leader school.

Every year during the IIOT competition days, IC members have a round-table meeting so as to evaluate the current edition, plan next year's edition, make changes in the Regulations if needed, and welcome the requests of nations wishing to become part of the project.

During these meetings, IC members elect the **International Secretary** with the tasks of upholding the IIOT web site, carrying out the countries admission formalities, writing the minutes at the end of the IC meetings and protecting and upholding IIOT Regulations. The International Secretary is elected by an IC majority vote, remains in charge for three years and can be removed by a 2/3 IC majority vote during an IC meeting.

During these meetings, IC members also elect the **International Coordinator** with the tasks of maintaining the IIOT institutional email, ensuring communication and co-operation within the IC members, representing the project at the exterior, promoting the IIOT development, establishing links with other International Olympiads and/or the Informatics Olympiad in synergy with the IC. The International Coordinator is elected by an IC majority vote, remains in charge for three years and can be removed by a 2/3 IC majority vote during an IC meeting.

The voting procedure is based on "one country, one vote"; votes require a simple majority except for what has already been said and the following decisions:

- selection of the next host is made by the IC by a majority vote;
- revision of the Regulations of the IIOT is adopted by the IC by a 2/3 majority vote;
- enlarging or reducing the set of IIOT countries can only be adopted by a 2/3 majority vote.

IC meetings can also be held on-line.

IC meetings are exceptionally open to invite other personalities for specific and well-defined purposes. Invitations are made by the IC himself/herself; the invited people have no voting rights.

THE GENERAL ASSEMBLY

The General Assembly (GA) is the democratic representative of all those who are involved in IIOT, both as regular and guest nations. It is composed of the team leaders of the participating countries, experts in Informatics and a president nominated by the host country, together with four people for each country: the representative of the Ministry of Education or another appropriate institution, the scientific coordinator and the headmaster and a teacher of the leader school.

The GA determines the minimum scores for the gold, silver and bronze medals.

The voting procedure is based on "one country, one vote"; votes require a simple majority.

The GA's life is during that specific IIOT edition.

THE SCIENTIFIC COMMITTEE

The National Scientific Committee (SC) of each regular participant country of the IIOT consists of the scientific experts who could be teachers and University students, coordinated by a University referent.

The National Scientific Committees become active well before the beginning of the Olympiad and have the task of selecting and preparing problem proposals, of testing and evaluating the solutions of the contestants for their national championships.

The Scientific Committee of the host country should prepare for the International Final Competition at least one extra proposal, besides the seven problems which the contestants will have to solve. They will be presented to the International Scientific Committee (consisting of a representative of each national SC) the day before the contest.

The International SC has the right to deny the proposal of a problem prepared and proposed by the Scientific Committee of the host country, in case of a major ambiguity of formulation or other serious reasons. For such cases the Scientific Committee of the host country should prepare at least one extra proposal. The text of the accepted proposals must not be changed by the International SC, except for minor rephrasing that is needed to avoid smaller ambiguities.

The International Scientific Committee should set up a guideline for the Syllabus and the production of problems during next year's edition .

The National Scientific Committees can receive help from a **Technical Committee** at their discretion, which should propose, develop and support technical matters concerning the IIOT: Virtual Machines, CMS, OS, tools, hardware, network security. One month before the IIOT the host national Scientific Committee can collect the requests from competing countries.

COMPETITIONS

Each regular member can decide by himself/herself about the selection procedure during its National Championship, but the National Final contest must be on-site and it must be held by the 31st of March of the year of IIOT.

All the data about its competitions are published by the nation itself on its website on some dedicated pages. It should include at least:

- enrolled teams data: team name, members (names, dates of birth, class attended), school (name and city)
- scheduled contests
- contest rankings

For instance, a suggested format for the National Competition is the following: four online preliminary competitions and one National Final on-site. Each competition lasts 3 hours and involves solving 7 problems. The first four Preliminary Competitions are held online, on a National dedicated platform, with automatic evaluator. Each team is given a valid username for the whole competition and a password that is different for each competition. The National Final Competition, in presence, decides its participants according to the total scores obtained in the previous 4 Competitions. The scores of the National Final Competition are not added to the scores of the Preliminary competitions.

Only for countries where Programming is not studied in schools, the students may be enrolled in an organization and come from the same region. Region = the metropolitan area or a city with the neighbouring villages. For these countries, in which there is no leader school but an organization in charge, the contestants must be in the same location during the National competition, moreover they should come from the same institution or region.

Each teacher assigned to a team will ensure the proper running of the national competitions, checking:

- that students do not use mobile phones, tablets or any type of electronic device;
- that students do not consult textbooks nor translators;
- that in the used laboratories the Internet connection is disconnected, with the exception of the Race Platform;
- that USB ports are disabled;
- that communication between teams is not possible.

The first winning team (4 students and a teacher) of each National Final Competition will participate in presence in the **International Competition.** Also, the second ranked team (4 students and a teacher) of each regular member may participate in the International Competition in presence. In this case, they will be officially ranked as the other regular teams, but they might have to pay a participation fee for their stay.

The Nation Leader Schools of the regular participants participate for free with 1 more team (4 students and a teacher) as "a special guest team".

The host country can have no more than 3 new extra teams as guests, no more than 5 teams in total.

Also, the guest nations invited teams participate in the International Competition in presence.

The International Competition, in presence, lasts 4 hours and it involves solving at least 7 problems.

Students should enter the room half an hour before the beginning of the contest, to check that everything works properly. None should enter the room dedicated to the contest, except for the host country's scientific and technical staff.

Contestants may submit written questions to the Scientific Committee of the host country concerning the formulation and interpretation of the problems during the initial period of each competition round.

No special hardware requirement or software packages (e.g. graphic packages) is needed to solve the problems. The whole communication between the IIOT committees and contestants is in a written form.

In the exceptional case of having online teams as guests in the International Competition, the recording of PC's activity for online teams has to be sent within 3 hours after the end the contest. The records will be checked only in presence of suspicion.

PROBLEMS

All the problems are given and solved in English.

The test that the students face is the writing of programs that solve all the problems assigned (7 at least).

The languages that can be used are: C, C ++ and Pascal.

The topics of the Olympic competitions include: arrays, even multidimensional, sorting and searching, greedy algorithms, recursion, dynamic programming, graphs, trees, lists. The Syllabus is posted on the web site.

EVALUATION

When the working time is over, the solutions of each of the contestant team are checked by an automatic evaluator and published onto the official IIOT website. If a team leader does not accept the results of the evaluation, he/she may appeal to the International Scientific Committee.

RESULTS AND PRIZES

The General Assembly determines the minimum scores for the gold, silver and bronze medals. The proportion of these gold, silver and bronze medals should be approximately 1:2:3. No more than 50% of the contestants should receive medals. Each contestant receives a certificate of participation.

Each participant team, both regular and guest teams, has the right to be awarded, according to their results. The official rank will present only the results of the regular participants. The results of the guest teams will not be put in the official rank.

A contestant may be disqualified by the GA in the event of unethical behavior during the contest and/or outside it which means any behavior that may ruin individuals, countries or IIOT reputation.

HOST COUNTRY

A host country, which is willing to organize an IIOT edition in a given year in its country, has to announce its intention at least one year before (during the previous IIOT competition days). The selection of the next host is made by the IC during its annual meeting.

The host country proposes at least two dates for the next IIOT edition to the other IC members, which will be voted for by the International Committee in order to avoid overlapping with national exams; they should be both by the end of May. The host country communicates the official dates to all the participating countries by January of the IIOT edition year with all the needed information: location, VISA, invitations.

A dedicated web site is set up by the host country by the beginning of January of the IIOT edition year. There should be published at least one month before:
- the program,
- the list of software and the environment the students will find in the competition (which operating system, editors, IDEs, compilers),
- address, details and photos of accommodation planned,
- information about VISA,
- regulations.

The program should include opening and award ceremonies, practice and contests,

social and cultural activities.

At the end of the event, certificates of attendance are provided by the host country for all the participants: students, teachers, delegates. The award ceremony should be comprehensive of the closing ceremony too. It also involves the passing-by of the official trophy to the next year's host country.

The host country decides the fees that may be paid by the second team of regular members and by the guest country teams as well as by the generic guests (accompanying persons and observers). Fees for the second national team and for guest country teams should be smaller than fees for generic guests. The host country will take into account personal, religious or cultural dietary requirements as much as possible.

There should also be some minimal conditions about accommodation: the hosting place should be at least a three star, all the rooms should have facilities, and adults should have a single room. Special cultural activities should be organized by the host country for guests (accompanying persons and observers), during the "involved people" activities.

The host country provides a sufficient number of PCs with the same Virtual Machine with the same software installed; the number should include a sufficient number of spare PCs in case something does not work in the last moment. USB should be disabled as well as Internet connection except for the contest platform. There must be software to allow viewing of the topics in electronic format (pdf).

The documentation of the allowed languages should be available during the competition.

The PCs used during the practice session should be cleaned; teams should not receive the same PC during the contest and the practice.

The author of the problems and one of his collaborators should be reachable during the contest to answer possible questions about the problems from teams.

REGULATIONS REVISION

Regular members may propose Revisions to the IIOT Regulations to the International Committee at least one month before the beginning of the IIOT competition days. Guest members to the IIOT may also submit suggestions. IC members decide about Regulations Revision during the annual meeting. The Revision is adopted by a 2/3 majority vote and becomes effective starting from the next year's edition of the IIOT.

Signed by the National Delegations of the IIOT in Order of Enrolment as Regular Participants

* ITALY: IIS Aldini Valeriani (Bologna) as Leader School

Nadia Amaroli

* ROMANIA: Colegiul National de Informatică (Piatra Neamţ) as Leader School

Daniela Neamțu

* EGYPT: Arab Academy for Science and Technology Regional Informatics Center

Eslam Wageed

* SYRIA: Distinct and Creativity Agency (DCA)

Ubai Sandouk

* HUNGARY: Budapesti Fazekas Mihály Gyakorló Általános Iskola és Gimnázium

László Nikházy