4. INTRODUCTION TO THE OLYMPIAD ON INFORMATICS (computing programming)

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Welcome, welcome to our friends
representing many views,
coming to a competition
we hope it will become tradition
Is it not a great idea
to gather all of you in here
to show that you are very clever
and you'll become good friends forever
Higher, stronger, further, wiser --
friendship is the best adviser

Dedicated to the participants of the 'Open Competition on Programming' -
Second international conference and exhibition 'Children in the Information
Age', Sofia, May 17-19, 1987 by E. Sendova.

1. Introduction

Various scientific Olympiads for high school students take place all over
the world; local, national, international. Well known are the Olympiads in
mathematics, physics and chemistry. In the last several years many
countries welcome the Olympiads in informatics: some international
competitions have been organized. Thus the prerequisites for the
organization of an International Olympiad in informatics are available.
The Olympiad in informatics is a scientific high school students forum,
which requires knowledge and ability to solve problems on a computer. In
order to solve the problems one has to design algorithms in order to write
it into a programming language so that it can be executed by a computer.
The application of a computer in the informatic Olympiad is a feature which
distinguishes them from the other Olympiads. This feature has a direct
influence on the Olympiad problems and therefore on the selection of the
high school students. The skill to write an optimal algorithm and to
execute it using a microcomputer is a prerequisite for succesful
participation.
The Olympiad participants are high school students not older than 19 years
by the date of the Olympiad.

2. Our experience

Competitions in informatics have taken place in Bulgaria since 1979. The
first one was organized for professional programers, but it attracted also
high school students.
Since 1982 the Union of the Bulgarian Mathematicians decided on a separate
competition in informatics (apart from mathematics).
The Bulgarian National Olympiad in Informatics has three rounds. The first
round is organized independentely in different towns. The second round
problems, unlike the first round ones, are the same for all classified
participants. The students, who have reached 75% of the maximal number of
points, are entitled to take part at the third round. The final, third,
round winners are the candidates for the International Olympiad team.
An Open Competition on Programming was organized in Sofia in 1987. Students
from Bulgaria, Czechoslovakia, FRG, Hungary, Roumania and USSR took part.

The international competition on Programming in October 1988 in Varna took place for 'technical and vocational high school' students. Children from Bulgaria, Cuba, Czechoslovakia, GDR, Hungary, Poland and USSR participated. An International Olympiad in Informatics will be organized in Pravetz from May 16-20, 1989.

3. Preparation and organization of the International Olympiad

The executive bodies of the olympiad are: the President of the International Olympiad in Informatics (IOI), the international jury, the co-ordinating commission, the organizing and scientific committees. The international jury includes: chairman, deputy-chairman and the team leaders, one for each team.
Each country has to offer problems, which have to be mailed to the scientific committee before the beginning of the Olympiad. The scientific committee selects no more than 5 problems and presents them to the international jury. The jury selects a problem, proposes a marking scheme and supervises its translation into the working languages of the Olympiad (English and Russian). Later on each team leader translates the problems into the corresponding national language. During the first 30 minutes of the competition the students have the right to ask questions. The duration of the competition is 4 hours. The team leader checks and marks the solutions of his team in cooperation with officials.
The most important aspects of the IOI organization is selection of the problems and the organization using many computers. The difficulties in selecting the problems arise from the different informatic subjects studied in the different countries. It presupposes that the problems should be of an algorithmic nature, and should be independent on computer architecture and on specialized programme packages. The most widespread and popular programming languages are: Pascal, Basic, Fortran, Logo etc. Each participant may use his own computer. In addition the organizers should provide (on preliminary request) APPLE-II or IBM PC (XT/AT) compatible computers for students who do not provide their own computer.

4. Several organizational proposals

The IOI will take place at the same time as the international conference "Children in the information age". The opening of the conference will coincide with the closing of the IOI, so that the final results of the Olympiad will be officially announced. The next IOI could be organized in another country and at another time. In order to facilitate the future organization of the IOI we propose that a committee or a secretariate should be set up so that it will take care of possible changes, aiming to perfect the IOI rules. It will select the country of the next Olympiad and will issue information on the organization and scientific programme. In this way it will co-ordinate all activities of the future IOI. Bulgaria agrees to provide representatives on this committee and offers to host it. We believe that UNESCO is the appropriate international organization to oversee the work of the committee.

**PRELIMINARY PROGRAMME OF THE INTERNATIONAL OLYMPIAD IN INFORMATICS
(computing science)**

(16 - 20 May, 1989, Bulgaria)

Tuesday, May 16th, 1989
morning   day of arrival
                  installation of the equipment
afternoon   technical conference

Wednesday, May 17th, 1989
morning   jury meeting for selection of the problem
afternoon   competition

Thursday, May 18th, 1989
morning   evaluation of the solutions by the leaders of the respective
                  teams
afternoon   coordination of the marking

Friday, May 19th, 1989
morning   completion of the coordination of the marking
afternoon   official presentation ceremony

Saturday, May 20th, 1989
day of departure