

THE MULTIDISCIPLINARY „PROSOFT@NT” CONTEST

Programme

19th – 23rd February 2014

I. General Background

The main, general objective of THE MULTIDISCIPLINARY „PROSOFT@NT” CONTEST is to promote the concepts of competition and performance, following the intensive study of Mathematics, Computer Science and Physics. The target-recipients are the high school and the secondary-school students endowed with aptitudes, interests and distinctive skills in the above mentioned domains.

II. Responsibilities and Obligations

The Organizing Committee from the educational institution, as the initiator of the competition, is responsible for the good and efficient organization and progress of this particular contest. The members of the respective committee are as follows:

- a) Chairperson – headmaster
- b) Vice-Chairperson – deputy
- c) Secretary – computer technician
- d) Members – teachers of Mathematics and Computer Science
- e) Assistant teachers – teachers of different specialties than those in the contest

For each section of the competition, there is a *Committee responsible for the subject elaboration and evaluation*, having the following structure:

- Honorary Chairperson: university professor
- Executive Chairperson: general inspector
- Vice-Chairperson: special inspector in ISJ NEAMT
- Secretary: teacher in charge with the activity of the department
- Members: teachers in the specialty

The Committee decide upon the number of participants, they select the activities for the contest, evaluate the solutions and display the list of awards and honourable mentions.

THE COMPUTER SCIENCE SECTION

THE PROGRAMMING SECTION

Observations:

During the competition stages, the participants:

1. shall not be equipped with mobile phones or any other means of communication
2. they shall not make use of individual external supports (disks/CD/flash-disks)
3. they shall not use other sources of documentation, except for the HELP of the medium in use
4. they shall not try to interfere with other participants' activities
5. they shall not damage the working environment
6. they shall not try to intrude into the evaluation system

According to the participants' syllabus, it is not permitted:

1. to exchange the rights to file access
2. to perform attacks upon the security system or upon the assessor

3. to access information on the file system
4. to design other programmes
5. to use assembly language

Any spotted fraud or attempt of sabotaging the correct progress of the competition/evaluation shall be immediately followed by the student's elimination from the contest

1. THE INDIVIDUAL PROGRAMMING SECTION

The contest takes place in the National College of Computer Science laboratories between 9 o'clock and 12 o'clock. The contestants have to arrive in the class half an hour before the contest. *Secondary school students are allowed to participate in the contest on the lists for the 9-th grade.*

When designing the contest subjects, there will be given a great importance to tasks which are meant to use the students' synthesis and analytic capacities and the knowledge accumulated in the years of study. The subjects will be designed according to the syllabus corresponding to the Computer Science County Olympiad and to each year of study.

The innovative techniques and creativity of the students will also be tested.

Regulations concerning the organization and the progress of the contest

- 1) In the morning preceding the contest, the committee will multiply the subjects and keep them out of the public sight.
- 2) The assisting teachers will instruct the students that are participating in the contest about their attributions and behaviour in the contest.
- 3) When applying for the contest every student will receive a numerical ID.
- 4) The used programming environments are :
 - For C/C++: MinGW, Code::Blocks;
 - For Pascal: Free Pascal;
- 5) The evaluation is made with an automated evaluation system.
- 6) The contestants will have to solve 2 problems, each having a maximum score of 100 points.
- 7) The evaluation system requires the exact following of the requests specified in the regulations and in the problem's text.
- 8) In the first half an hour the contestants are allowed to ask the evaluation committee questions about the problems, if they have doubts. The questions will be formulated so that they can be answered with "YES" or "NO". The answer will be "NO COMMENT" for any ambiguous questions or for those whose answer can be found in the text of the problem.
- 9) The entry data reading will be made from the entry file specified in the text of the problem, and the results will be shown in the exit file. You must follow strictly the name and extension of the file (written in small letters) and the format of data specified in the text. Any line from the exit file must end with a finish marking (Enter).
- 10) The compilation time is written on the contest sheet.
- 11) After the competition, no modifications of the contestants' subjects are allowed.
- 12) After the evaluation, the contestants will be allowed to return to their contest halls and they will be able to test their own solutions within the assessed tests.
- 13) The board of examiners shall provide all the participants with all the used input data, as well as with the correct corresponding output data, also displaying a description of the solutions to the problems which constituted subjects within the competition.
- 14) The subject-designing and evaluation committee for each year of study shall consist of teachers who do not have students in the contest for that grade level.

The appeal for re-evaluation

If a participant considers, after comparing his\her own individual solutions with the ones presented by the Board of examiners, that there appear differences, he\she may fill in a form and present it to the Board secretary, following the time constraints mentioned the initial results are displayed. The participant has to specify his own ID, the problem for which he requires this evaluation and the reasons he\she contests it.

The students can contest the evaluation for each problem within the subject, the cost of the re-evaluation being 10 RON/problem. The students will receive their money back if the appeal is accepted with a score higher than the initial marking.

The Board of examiners will re-evaluate the solutions of all those participants who contested the results. In exceptional cases, all the participants may be re-evaluated. As a whole, the final score is settled after the respective re-evaluation. After the contest has been completed, no adjustments to the participants' sources are allowed.

2. THE TEAM PROGRAMMING SECTION

As part of the International Festival of Mathematics and Computer Science, the team programming section will take place according to the programme of the festival. This section requires teams formed of three students, grades IX-X (at least one student per level of study).

The enlisting in the competition will be done by sending an email from the participant school to the address: cni_pn@yahoo.com, with the personal data of each member of the team (first name, surname, and grade). In this email, there must be specific reference to the member of the team who has been assigned the role of "team captain" as he/she is the one who will ensure the exchange of information between the members of the team and the board of examiners during the competition.

The used programming environments are:

- For C/C++: MinGW, Developer Studio, Code::Blocks;
- For Pascal: Free Pascal;

The Competition Committee

The Chairperson of the Evaluation Committee supervises, being in charge with the good progress of each section. He/She nominates the **Competition Committee**, which is formed by: three evaluation teachers, a secretary teacher and three assistant teachers.

The contest

Every team has to solve a programming problem, scored with 100 points. The assistant teachers will give the suggested problem to each team captain, at the precise time established for the beginning of the test. The timeline is 90 minutes. Every team captain will hand in the files containing the solution of the problem, to the assistant teachers. The evaluation is made with an automated evaluation system (software which compiles the students' source, executing the students program for each set of input data prepared by the evaluation committee and verifying if the output data is correct, and so giving each student a score according to the marking scheme).

The final classification

The team who obtain the highest score after evaluation are declared the winners of the contest. The final classification is presented in the decreasing order of the scores. In case two or more leading teams get the same number of points at the end of the test, the winners will be confirmed after analysing the working time.

Rules regarding the participants' behaviour

Members of different teams are not allowed to cooperate during the contest. Teams breaking this rule shall be eliminated. The members of each team will have to communicate so as not to disturb members of the other participating teams during the contest.

THE SOFTWARE CONTEST

The software contest will include the following sections:

- 1) Educational software.**
- 2) Web Pages.**

The enlisting in the competition will be done by sending the application forms, until the date presented in the invitation.

The contest regulation

- 1) *The contest is dedicated to students with special abilities, talent and interest in designing computer applications.*
- 2) *The works will be presented with the help of a PC and a video projector.*
The installation of students' projects on the PCs will be made by every participant in the previous evening. The students will have with them all the software needed for the good functioning of their work. We are not responsible for any errors of the installation process.
- 3) *The team that worked on each project should include a maximum of 2 (two) members, according to the complexity of the work. Each team may be represented by a single member who will be considered the leader of the team.*
- 4) *Each team is allowed to enlist and present only one project in the contest.*
- 5) *No matter what section the students choose, the projects shall not promote sex, violence, ethnic or social discrimination. The projects that disregard this condition will be automatically rejected*
- 6) *The application presentation must not be longer than 10 minutes.*
- 7) **The contestants who enlist projects in the competition shall be the rightful authors of these works.** The competitors must prove that the enlisted projects belong to them, by presenting the sources. Any illegally-appropriated project will be eliminated from the contest.
- 8) **One cannot introduce into the competition projects which have already been presented in previous editions of the festival.** If some of the projects have already received awards in other regional or national competitions, they will be eligible only if major changes have been made in their structure and content, which should be mentioned in the students' declarations (affidavits).
- 9) *The whole responsibility for the projects which are presented in the competition lies with the contestants.* They have to make sure that their works do not infringe upon anybody's rights to physical or intellectual property, personal image and intimacy. The simple enlisting in the contest involves assuming and accepting any consequences that could issue as a result of publishing those projects. The organizers do not take any responsibility for such projects and cannot be, under any circumstance, made responsible for such consequences.
- 10) **Every contestant must present to the committee his work in electronic format containing the demo version of the project accompanied by the afferent paperwork containing:**
 - A) The Title
 - B) Type of work (the section in which he/she participates);
 - C) Student/Students' name(s)
 - D) Grade
 - E) School;
 - F) The name of the Coordinators
 - G) A short description of the work: the structure of the paper; the programming language; the applications involved in the design of the project.
- 11) *The participants will sign an affidavit through which they confirm the agreement with the present regulation, whose infringement may result in elimination from the competition.*
- 12) **The evaluation criteria will posted on the site together with the contest regulation.**

13) The marks will be from 1 to 100.

14) Prizes will be awarded according to the decreasing order of the marks within the limits established by the committee.