The Central European Olympiad in Informatics (CEOI) is a younger partner of IOI and takes place since 1994 every year. It is a competition for secondary school students who are interested in informatics. The first CEOI was held in 1994, five years after the first IOI. The first International Olympiad in Informatics (IOI) for secondary school students, supported by UNESCO, was organised in 1989. Thirteen countries took part in the first competition, held in Pravetz (near to Sofia), Bulgaria. A year later already 25 countries sent their teams, composed of four students and two team leaders, to Minsk, Belorussian Republic, Soviet Union. In the subsequent years the number of participating countries rose to almost 50.

Inspired by the fast-growing popularity of the IOI, the Romanian team proposed in 1993 to organise a similar event for the Central European countries (as a matter of fact, they have been organising the Olympiad in Informatics of the Balkan countries since many years). Shortly thereafter, Romania officially invited the teams of Austria, Croatia, the Czech Republic, Hungary, Poland, Slovakia and Slovenia to participate in the first Central-European Olympiad in Informatics (CEOI). Five of these eight countries Croatia, the Czech Republic, Hungary, Poland and Romania sent their teams to Cluj in May 1994 where, upon special invitation, four more teams from Moldavia, Romania, Yugoslavia, and Turkey took also part in the contest. CEOI ’94 was hosted by the "Tiberiu Popovic" secondary school in informatics, Cluj; the organising committees were headed by Ms. Clara Ionescu and Dr. Horia Georgescu.

The Czech Republic already hosted the 6th Central European Olympiad in Informatics in 1999, that took place in Brno, Faculty of Informatics.

### The CEOI Rules

<table>
<thead>
<tr>
<th>Introduction</th>
<th>The Olympiad is organized by the Ministry of Education or another appropriate institution of one of the eight Central European countries. According to the rules accepted by the initiators of the CEOI, teams of eight Central European countries, i.e. Croatia, Czech Republic, Germany, Hungary, Poland, Romania, Slovak Republic and Slovenia (suspended), are invited as regular participants. Moreover, the host country may invite guest participants as well.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goals</td>
<td>Additionally, the CEOI may:</td>
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<td></td>
<td>- provide training for the students participating in the International Olympiad in Informatics (IOI),</td>
</tr>
<tr>
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<td>- initiate discussion and co-operation in informatics education in the secondary schools of the Central European countries.</td>
</tr>
</tbody>
</table>
Team Composition

A contestant - secondary school student - is not older than twenty years. The team leader will be a member of the General Assembly.

Observers and persons accompanying a delegation have to pay a fee.

Scientific Committee

The Scientific Committee (SC) consists of a chairperson and a number of experts (SC members) from the host country.

It becomes active well before the beginning of the Olympiad and has the task of selecting and preparing problem proposals. A further task of the Scientific Committee is to test and evaluate the solutions of the contestants.

The competition consists of two rounds in two days. In both rounds the working time is five hours and the contestants will be given one to four problems to solve. The selected problems will be translated by the team leaders into the national languages of the teams. Contestants may submit written questions to the Scientific Committee concerning the formulation and interpretation of the problems for the entire duration of the contest. Contestants may use their national language in asking questions during the first hour of competition. Questions submitted afterwards may only be in English. Only questions that can be answered with 'Yes', ', 'No' or 'No comment' may be accepted.

The answers will be produced by the members of the Scientific Committee and approved by the chairperson of the SC as soon as possible. When the competition ends, each contestant should prepare his/her solution for the evaluation, according to regulations issued by the organizers. No special hardware requirement or software packages (e.g. graphic packages) will be needed to solve the problems. The whole communication between the CEOI authorities and contestants will be in a written form.

Each team is composed of up to four secondary school students, a team leader and a deputy team leader. Only the cost of travel to and from the place of the competition should be paid by teams; all local expenses are covered by the organizers. Accompanying persons and observers are welcome, but they should pay for their stay. Interested people are advised to contact the local organizers. The official language is English. Students may use their mother tongue.

Programming problems will be formulated in English and then translated by the team leaders to the mother tongue of their team. Both versions will be given to the students. Team leaders must be able to speak and write in English, as well as the language of their team. The computers will be IBM PC compatibles with selected software packages. Only the computers and software with built-in help facilities provided by the organizers may be used in the competition.

In particular, the use of printed materials will be forbidden. The programming languages of the contest are Pascal, C and C++; the precise versions of these languages will be updated each year. The compilers and programming environments for the above mentioned programming languages will be installed on the hard disk.

When the working time is over, the solutions of each of the contestants will be checked by an evaluator, using previously unpublished test data. The evaluation is based on the test data and the responses of the programs only. The evaluation procedure concludes with the meeting of the Scientific Committee, where the evaluation reports are discussed.

Potential disagreements are dissolved by voting. Achieving a proper and balanced evaluation is the responsibility of the Scientific Committee. If a team leader does not accept the results of the evaluation, he/she may appeal to the General Assembly. Finally, the president of SC or IC presents the anonymous results to the General Assembly to take final decisions.

General Assembly (GA) is composed of the team leaders of the participating countries and the president nominated by the host country. General Assembly selects problems to be solved in the competition from a set of problems prepared and proposed by the Scientific Committee. The selection procedure is the following:

- The chairperson of the Scientific Committee distributes the proposals. Their number equals the number of problems to be solved by the contestants.
- The GA members may either accept or, in case of a major ambiguity of formulation or other serious reasons, deny the proposals by voting. When and if a proposal is denied, another prepared proposal will be offered to the GA. For such cases, the Scientific Committee should prepare at least two extra proposals for each round. The text of the accepted proposals must not be changed by the GA, except for minor rephrasing that is needed to avoid smaller ambiguities.
- The selected problems will be translated by the team leaders into the national languages of the teams.

The GA will determine 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. Each contestant will receive a certificate of participation.

General Assembly

The GA has the following tasks:

1. It selects problems to be solved by the team leaders in the Secretary's Competition from preselected proposals.
2. It discusses the problems and decides on the final problems.
3. It creates a problem evaluation committee to review the solutions of the contestants.
4. It approves the rules of the competition.
5. It establishes the minimum scores for the gold, silver and bronze medals.
6. It elects the president of the SC for the next competition.

Problems, Competition

General Regulations

Evaluation

Newsletter

Page: 2
Some Helpful Information and Suggestions

Important places

- Official Opening and Closing Ceremony
- Competition
- Meeting of the International Jury
- Accommodation
- Breakfast
- Lunch and dinner

Accommodation

The CEOI '07 organizers have arranged your accommodation in Student's Hostel of Masaryk University at Kounicova Street No. 50 in double bed rooms.

The hostel is reachable from the city center by the tram No. 12 direction “Červinkova” or No. 13 direction “Technické muzeum”. The tram stop “Klusáčkova” is nearest to the student's hostels.

Faculty of Informatics

The building of the Faculty of Informatics is located at the Botanická Street No. 68a. The building is best reachable from the city center by the tram No. 1 direction “Rečko-vice”. The tram stop “Hrnčířská” is the nearest to the Faculty building. The Faculty of Informatics is about 600 meters from the student's hostel at Kounicova Street, where you are accommodated (see Fig. 1).

Fig. 1: How to get from the hostel to the faculty

Brno Introductory Word

Brno, the Czech Republic's second largest city, has a population of nearly 370,000 people. It lies in the central part of Europe and within its two hundred-kilometre radius there are other important European capitals: Prague, Vienna and Bratislava. The international airport in Brno serves regular flights. Brno is the metropolis of Moravia and an important tourist centre for all who want to explore the natural and cultural beauties of the South-Moravian region.

To the north of Brno there is the protected area of the Moravian Karst (Moravský kras) and to the south stretch the Moravian vineyards with their typical wine cellars. The city is surrounded by beautiful mixed forests, which offer many opportunities for tourism and cycling. Brno prides itself on many notable historic sites that show evidence of its rich cultural history.

Fig. 2: The castle Špilberk
Once established as a settlement of merchants eight centuries ago on the junctions of the rivers Svatka and Svitava, it withstood the pressure of both the Hussite and Swedish besiegement, witnessed Napoleon's military expedition to Slavkov, bore the cruel consequences of the Austrian defeat at the Battle of the Three Emperors, became an industrial centre of the Habsburg monarchy called "the Austrian Manchester" and, in the twentieth century, gained a character of a modern city thanks to the construction of new buildings in the functionalist style.

The most important example of modern architecture in Brno is the Tugendhat Villa - a historic site inscribed on the UNESCO's World Cultural Heritage List.

The City of Brno regularly holds various cultural events, festivals (e.g. "Brno - City in the Centre of Europe" associated with a fireworks competition "Ignis Brunensis") as well as some notable sporting events (Brno Grand Prix of road motorcycles). Brno is also a city of modern shopping and entertainment centres.

Faculty and its graduates are testament not only to the success of the Faculty but to the University as a whole.

From a modest beginning of twenty academic staff and less than four hundred students, the Faculty has grown rapidly. Today, with more than 1,700 students, the Faculty offers a wide range of study programs at Bachelor, Master and Doctoral level. Bachelor study programs offer the foundation level of university study in Informatics. Master study programs offer the second level of university study in three main subjects and many specializations - from Theoretical Informatics to Information Systems, Natural Language Processing and Graphic Design.

A high standard of teaching is combined with in-depth scientific research. Academic and research staff have achieved significant successes internationally in many areas of Informatics, such as Quantum Informatics, Concurrent and Distributed Computing, Database Systems, Picture Analysis and Computer Graphics, Computer Networks and Distributed Systems, Machine Learning, Data Mining and Natural Language Processing.

Faculty of Informatics, Masaryk University

The Faculty of Informatics at Masaryk University was established in 1994 and is the very first specialized faculty of its kind in the Czech Republic. Its establishment followed decades of experience built in the area of Mathematical Informatics at the Faculty of Science, and with significant involvement from prominent specialists in the field of Informatics at both national and international levels. Masaryk University recognized the importance of Informatics and interdisciplinary Informatics applications, the need to offer quality education aimed at understanding this field, and the practical application of Informatics knowledge. The achievements of the
<table>
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<tr>
<th>Country</th>
<th>Team leader</th>
<th>Deputy leader</th>
<th>Contestants</th>
<th>Guests</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Croatia</strong></td>
<td>Krešimir MALNAR</td>
<td>Luka KALINOVČIĆ</td>
<td>Igor ČANADI&lt;br&gt;Goran ŽUŽIĆ&lt;br&gt;Domagoj KUSALIĆ&lt;br&gt;Relja MEDIĆ&lt;br&gt;Damir PAVIĆ</td>
<td></td>
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<tr>
<td><strong>Germany</strong></td>
<td>Wolfgang POHL</td>
<td></td>
<td>Daniel GRUNWALD&lt;br&gt;Ludwig SCHMIDT&lt;br&gt;Benito van der ZANDER&lt;br&gt;Martin MAAS&lt;br&gt;Steffi HEINICKE&lt;br&gt;Michael HAHN</td>
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<tr>
<td><strong>Hungary</strong></td>
<td>Gyula HORVÁTH</td>
<td>László ZSAKÓ</td>
<td>András EISENBERGER&lt;br&gt;Tamás PEREGI&lt;br&gt;Balázs SZALKAI&lt;br&gt;Gergely NAGY</td>
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<tr>
<td><strong>Poland</strong></td>
<td>Jakub PAWLEWICZ</td>
<td>Tomasz IDZIASZEK</td>
<td>Marcin ANDRYCHOWICZ&lt;br&gt;Marcin KURCZYCH&lt;br&gt;Jakub KALLAS&lt;br&gt;Tomasz KULCZYŃSKI</td>
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<tr>
<td><strong>Romania</strong></td>
<td>Emanuela CERCHEZ</td>
<td>Constantin GALATAN</td>
<td>Andrei GRIGOREAN&lt;br&gt;Cosmin GHEORGHE&lt;br&gt;Victor RUSU&lt;br&gt;Stefan-Alexandru FILIP</td>
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<tr>
<td><strong>Slovak Republic</strong></td>
<td>Gabriela ANDREJKOVÁ</td>
<td>Peter PEREŠÍNI</td>
<td>Vladimir BOŽA&lt;br&gt;Peter ONDRUŠKA&lt;br&gt;Michal DANILÁK&lt;br&gt;Jozef JIRÁSEK</td>
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<tr>
<td><strong>Czech Republic I</strong></td>
<td>Pavel TÖPFER</td>
<td></td>
<td>Pavel KLAVÍK&lt;br&gt;Miroslav KLIMOŠ&lt;br&gt;Josef PIHERA&lt;br&gt;Roman SMRŽ</td>
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<tr>
<td><strong>Czech Republic II</strong></td>
<td></td>
<td></td>
<td>Jakub KAPLAN&lt;br&gt;Lukáš LÁNSKÝ&lt;br&gt;Libor PELTAN&lt;br&gt;Libor PLUCNAR</td>
<td></td>
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<tr>
<td><strong>Czech Republic III</strong></td>
<td></td>
<td></td>
<td>Karolína MALÁ&lt;br&gt;Jitka MATĚJKOVÁ&lt;br&gt;Tereza KRATOCHVÍLOVÁ&lt;br&gt;Zuzana KOMÁRKOVÁ</td>
<td>Monika PETERKOVÁ&lt;br&gt;Dominika POŠOVÁ&lt;br&gt;Alexandra SKRIPOVÁ&lt;br&gt;Hana ŠORMOVÁ</td>
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</table>

**Guides**

Team Guides
CEOI Committees

**Scientific committee**

**Chairman:** Daniel KRÁL

**Members:**
- Martin MAREŠ
- Milan STRAKA
- Zdeněk DVORÁK
- Pavel NEJEDLÝ

**Organizing committee**

**Chairman:** Tomáš PITNER

**Members:**
- Jaroslav PELIKÁN
- Luděk BÁRTEK
- Zbyněk MAYER
- Roman ŽILKA
- Dana KOMÁRKOVÁ
- Miroslava KOZUBÍKOVÁ
- Eva MATÉJKOVÁ

CEOI Programme

**Sunday July 1st, 2007**

- **20:30** Arrival and accommodation of delegations
- Meeting of the International Jury,
  Student's Dormitory at Kounicova Street 50

**Monday July 2nd, 2007**

- **7:30 - 8:30** Breakfast
- **9:00 - 10:30** Official Opening ceremony at the Faculty
  of Informatics, Botanická 68a, classroom D3
  Presentation of Sponsors
- **11:00 - 13:00** Practical Instructions about Computer
  Equipment for the Competition
- **13:15** Lunch
- **14:30** Excursion to Brno, the metropolis of Moravia
- **18:00** Dinner
- **19:00** Meeting of the International Jury
  Final Approval of the Tasks for the First Competition Day
  Translation to the Native Languages

**Tuesday July 3rd, 2007**

- **7:30** Breakfast
- **9:00 - 14:00** Competition
- **14:15** Lunch
- **14:00 - 16:00** Testing of the Results and Evaluation
  Excursion to laboratories at the Faculty of Informatics
- **16:00 - 17:00** How to beat the computer chess program
  Lecture on computer chess
  Bohumír Stědroň, Ph.D. Including demonstration
  and a simultaneous match
  Evaluation of Solution and Resolving Issues
- **18:00** Dinner

**Wednesday July 4th, 2007**

- **7:30** Breakfast
- **9:00 - 17:00** A whole-day trip - Lednice
- **18:00** Dinner
- **19:00** Meeting of the International Jury
  Final Approval of the Tasks for the Second Competition Day
  Translation to the Native Languages

**Thursday July 5th, 2007**

- **7:30** Breakfast
- **9:00 - 14:00** Competition
- **14:00 - 16:00** Testing of the Results and Evaluation
  Lunch
- **14:15** Evaluation of Solution and Resolving Issues
  Dinner
- **18:00** A trip - The Nicolas Copernicus
  Observatory and Planetarium in Brno
- **18:30** Meeting of the International Jury
  Evaluation of Solution and Resolving Issues

**Friday July 6th, 2007**

- **7:15 - 8:00** Breakfast
- **8:00** Departure to the Faculty of Informatics
- **8:30 - 16:00** A whole day trip - Moravian Karst
  Final Evaluation of the Results,
  Preparation of the Final Results Table
- **17:00** Awarding Ceremony, Official Closure of the Competition,
  classroom D3
- **18:00** Evening Cultural Programme

**Saturday July 7th, 2007**

- **7:30** Breakfast
- **Departure**