

Developing Algorithmic Thinking Through a Contest

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Keywords

Informatics, Informatics Concepts, Tasks Solving, Contests

The International Bebras Contest is a very ambitious contest. It does not test pre-knowledge or specific skills learned at school. In contrary there are only problem solving activities, no pre-knowledge is necessary. The students may learn aspects of informatics concepts in the way of solving Bebras tasks. The better the problem-solving skills the better are the results. The more tasks the students have worked on the more they have learned. A very important part of the Bebras tasks are from type Algorithmic Thinking. This type of tasks involves some aspects of finding out or to follow some rules (algorithms). They also involve some simple programming activities, but no pre-knowledge of a specific programming language or computer system is necessary. The tasks have the character of a game and not the characteristic of an examination. This workshop will enable participants to explore, understand and evaluate the concepts of informatics.

List of Content:

Aspects of Algorithmic Thinking

Outline of “Bebras International Contest on Informatics and Computer Fluency”

Learning through a contest

Example tasks that support different aspects of algorithmic thinking

The challenge to design such tasks

The experience of some participating countries

Duration of workshop: 2 hours

Expected audience:

IT teacher, teacher educators, educational scientists.

If there are secondary school pupils of local schools available we can even perform a 40 min contest with them during the workshop.

Biography



Valentina Dagiene is a professor at the Vilnius University. She has published over 150 research papers and the same number of methodological works, has written more than 60 textbooks in the field of informatics and ICT for secondary schools. She has been working in various expert groups and work groups, guiding the activity of a Young Programmer’s School, for many years, organizing the Olympiads in Informatics among students. She is national representative of Lithuania in IFIP TC3 also member of IFIP WG 3.1 and 3.3 as well as SIG 3.9. She is vice chair of IFIP TC3.



Gerald Futschek is professor at Vienna University of Technology where he is highly involved in teacher education. He gives there lectures and labs on Software Engineering, Algorithms and Data Structures, Computer Programming, Software Verification and Informatics Didactics. He has organized the yearly Beabras contest in Austria since 2007. He was involved as group leader in all international Bebras workshops so far. He is national representative of Austria in IFIP TC 3.

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