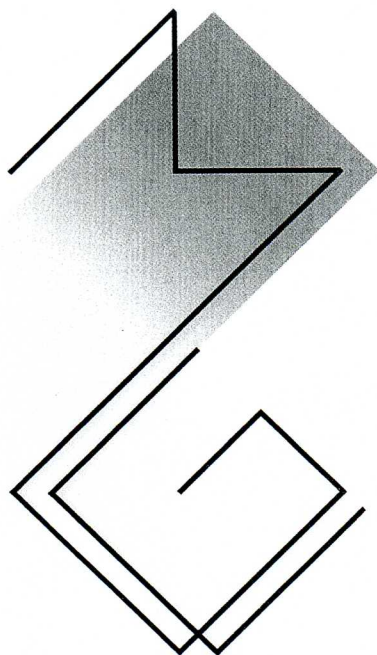


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## WHAT KINDS OF TASKS ARE GOOD FOR CONTESTS?

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### Abstract

*Creating interesting and attractive tasks that are motivating and funny for the students is very challenging. The main attention should be paid while preparing a contest to the development of good tasks that also can be used by the students and teachers in their further learning and teaching activities. The paper deals with some criteria for good tasks in informatics contests for all students (these criteria can be easily applied to mathematics contests, e.g. "Kangaroo". As an example of the international Informatics and Computer Fluency contest "Bebras" (Beaver) the idea of developing some criteria for good tasks is discussed in the paper. Some tasks are presented and analyzed as well.*

**Key words:** *informatics, computer education, learning by contest, explorative learning, tasks, problem solving.*

### Introduction

Students like to be involved in a competition, they like to compete. Contests are extracurricular activities that allow students to acquire their knowledge and apply it within a competitive environment. These types of activities provide ways of challenging students in creative and innovative ways.

The international Informatics and Computer Fluency Contest Bebras (Beaver) was held for the first time in Lithuania in 2004, therefore the Lithuanian name Bebras means a vivid dam building animal beaver. It is an Informatics contest for all secondary school students that is held at school, at computers and offers from 18 to 24 problems to be solved by the students within 45–55 minutes. There are different task sets for the age groups Benjamin (grades 5–8), Junior (grades 9–10) and Senior (grades 11–12). In some countries there are two age groups for the youngest: Benjamin and Cadet. The contestants are usually supervised by teachers who may integrate the contest in their teaching activities.

The general goals of the Bebras contest are: (1) to give the students motivating impulses to be interested in informatics; (2) to show the variety of informatics topics and concepts; (3) to show that solving informatics problems is interesting and challenging; (4) to bring learning challenges; (5) to support a positive attitude towards informatics and computer fluency.

The number of the Bebras participants has been growing. In 2009, the Bebras contests took place in 11 countries, with about 150,000 participants in total (Bebras, 2010). Most participants, 82,799, came from Germany (40% of participants were girls!). Estonia had the strongest relative participation. The Bebras mover country, Lithuania, had 10,358 participants in 2009. Seven further countries are going to run the Bebras competitions in November 2010 (Bulgaria, Egypt, Finland, Israel, Romania, Slovenia, and Switzerland).

Workshops for developing the Bebras tasks are organized each spring. The main goals of the workshops are to develop a set of tasks for the coming contest, to discuss them and come to an agreement among the countries with different curricula and traditions of teaching computer science in general education.

### Categories of Tasks

Young people are using technology every day. Some of them have a better understanding, other are plain users. However, the users need thinking skills while applying technology. One of the best ways to develop thinking skills is to solve problems. The ability of students to solve problems in real-life settings is of prime concern to educators and policy