

ABSTRACT

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The dissertation thesis is devoted to the creation of a database of mathematical problems that were used in mathematical competitions in Slovakia. Subsequently, we will also verify the usability of our database in the educational process. The starting points of this thesis include currently available databases of mathematical tasks, their form, structure, and content. We will focus on ways of categorizing problems and on existing mathematical competitions, from which we will take problems. As part of the thesis, we will create the "Matematické úlohy navyše" database of mathematical problems, drawing problems from math competition Riešky. In the thesis, we describe the entire process of creating a database and subsequently verifying its usability in the educational process. The research part was significantly affected by the COVID-19 pandemic, so in the work we present only a part of our research that we managed to carry out. The result of the work is a database of problems from the mathematical competition Riešky, which we would like to expand further, and a partial verification that the database can be used in educational process, for example when working with gifted students or when preparing mathematical clubs.

Key words: database of mathematical problems, educational process, mathematical competition