

Analytical Theory of Latin and Magic Squares

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ABSTRACT

The main goal of elaborated theory is to describe a set of all computational algorithms on constructing Latin and Magic squares by a family of analytical functions. To solve this problem the set of computational algorithms is divided on three groups with linear, quasi-linear and nonlinear algorithmic methods. We demonstrate that for every group of algorithms, the choice of analytical functions is executed by multiply ways. Thus, the main problems of constructed analytical theory consist not only in deriving analytical functions, but rather in parametrization of computational algorithms. Due to elaborated techniques on parametrization of computational algorithms some possibilities are available to generate new algorithmic methods on constructing Latin and Magic squares from derived set of analytical functions.

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