Usage of the System *Mathematica* in Teaching and Learning Number Theory

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The talk considers some of the possibilities of the system for computer algebra *Mathematica* in teaching and learning Number Theory. The topics discussed include the basic properties of integers connected with divisibility and their representations, the Euclidean algorithm, the greatest common divisor, the fundamental theorem of arithmetic, applications of Fermat's and Euler's theorems, solving of congruences and systems of congruences, linear Diophantine equations, etc.

Many examples are given showing how the system *Mathematica* could help the better understanding of important theoretical topics in Number Theory by suitable examples and could encourage students to become more involved in the teaching process in Number Theory.