1067-68-1444 Artur Kornilowicz* (arturk@math.uwb.edu.pl), Institute of Informatics, University of Bialystok, ul. Sosnowa 64, 15-887 Bialystok, Podlaskie, Poland, and Adam Naumowicz (adamn@math.uwb.edu.pl), Institute of Informatics, University of Bialystok, ul. Sosnowa 64, 15-887 Bialystok, Podlaskie, Poland. The language of mathematics in Mizar.

Mizar is a state-of-the-art proof checker conceived to support mathematicians in their daily reasoning work. The underlying Mizar language has been designed to reconstruct mathematical vernacular in a computer-oriented environment. In this talk we will show how the natural language of mathematics can be encoded within the Mizar framework. We will present ways of defining notions like predicates, modes, adjectives (with and without so called "visible arguments"), functors, and structures. Various methods of formulating facts, e.g. theorems, schemes, registrations, and proof techniques provided by the system, e.g. diffuse reasoning, "per cases" reasoning, and definitional expansions will also be shown. Finally, we will discuss the most recent implementation of ellipsis. (Received September 21, 2010)