

Controlled Pure Grammar Systems

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Abstract

Grammar systems consist of multiple grammars cooperating together to produce the output string.

Pure grammars contain only one kind of symbols – terminal symbols. There are no non-terminal symbols in pure grammars and rules contain only terminals on both sides.

Controlled grammars are grammars which perform derivations according to certain rules. For example, the sequence of applied rules must belong to a language, called controlling language. Such grammar is then called a language-controlled grammar. Controlled grammars are sometimes called *regulated grammars*. Similarly, in the case of a language-controlled grammar, the controlling language is also called *regulating language*.

Finally, controlled pure grammar systems combine the three concepts into a single formal model – a system of cooperating pure grammars, in which derivations are globally controlled by a single controlling language.

In this talk we discuss controlled pure grammar systems. We will explain how they work on practical examples and we will describe their generative power depending on the type of the controlling language.