

# Macrolop Specification

Temirkhan Myrzamadi (a.k.a. Hirrolot)

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## 1 EBNF Grammar

$$\begin{aligned}\langle evaluate \rangle &::= \text{MACROLOP\_EVAL}(\{ \langle term \rangle \}^*) \\ \langle term \rangle &::= \text{call}(\langle macro \rangle, \{ \langle term \rangle \}^*) \\ &\quad | \text{v}(\langle tokens \rangle) \\ \langle macro \rangle &::= \langle ident \rangle\end{aligned}$$

Figure 1: Grammar rules

## 2 Operational Semantics

$$\begin{aligned}&\frac{}{v(tokens) \rightarrow tokens} \text{ (final)} \\ &\frac{arg_1 \rightarrow arg'_1 \quad \dots \quad arg_n \rightarrow arg'_n}{call(macro, arg_1 \dots arg_n) \rightarrow macro(arg'_1, \dots, arg'_n)} \text{ (macro-call)} \\ &\frac{term_1 \rightarrow tokens_1 \quad \dots \quad term_n \rightarrow tokens_n}{MACROLOP\_EVAL(term_1 \dots term_n) \rightarrow tokens_1 \dots tokens_n} \text{ (eval)}\end{aligned}$$

Figure 2: Computational rules