

ASMLisp Specification

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1 Syntax

ASMLisp's syntax is inspired by LISP.

1.1 Grammar

$\langle \text{program} \rangle ::= \langle \text{definition} \rangle^*$

$\langle \text{instruction} \rangle ::= \langle \text{definition} \rangle \mid \langle \text{label} \rangle \mid \langle \text{call} \rangle$

$\langle \text{definition} \rangle ::= \text{'(define' } \langle \text{identifier} \rangle \langle \text{argument} \rangle \text{')'}$

$\langle \text{label} \rangle ::= \text{'(label' } \langle \text{identifier} \rangle \text{')'}$

$\langle \text{call} \rangle ::= \text{'(' } \langle \text{identifier} \rangle \langle \text{argument} \rangle^* \text{')'}$

$\langle \text{argument} \rangle ::= \langle \text{identifier} \rangle \mid \langle \text{lambda} \rangle \mid \langle \text{immediate} \rangle$

$\langle \text{lambda} \rangle ::= \text{'(lambda' } \langle \text{identifier} \rangle^* \langle \text{instruction} \rangle^* \text{')'}$

$\langle \text{identifier} \rangle ::= /[a-zA-Z]\w*/$

$\langle \text{immediate} \rangle ::= /[1-9]\d*/$