

BNF

<program> ::= <statement>*

<statement> ::= <function_definition> | <expr>

<function_definition> ::= "defun" <identifier> "(" <parameters> ")" "{" <expr> "}"

<function> ::= <function_definition> | <lambda_expression>

<lambda_expression> ::= "lambda" <parameters> "." <expr>

<parameters> ::= <identifier> ("," <identifier>)*

<function_application> ::= <function> "(" <arguments> ")"

<arguments> ::= <expr> ("," <expr>)*

<if_statement> ::= "if" "(" <expr> ")" "{" <expr> "}" ("else" "{" <expr> "}")?

<expr> ::= <term> (("+" | "-" | "&&" | "||" | "==" | "!=" | ">" | "<" | ">=" | "<=") <term>)*

<term> ::= <factor> (("*" | "/" | "%") <factor>)*

<factor> ::= <integer>

| <boolean>

| "(" <expr> ")"

| "!" <factor>

| <function_application>

| <identifier>

| <function_definition>

| <lambda_expression>

| <if_statement>

<identifier> ::= [a-zA-Z_][a-zA-Z0-9_]*

<integer> ::= [0-9]+

<boolean> ::= "True" | "False"