

PROGRAM ::= DEFINITION-LIST

DEFINITION-LIST ::= ε
| DEFINITION DEFINITION-LIST

DEFINITION ::= "fn" IDENTIFIER "(" PARAMETER-LIST ")" "->" TYPE
BODY

PARAMETER-LIST ::= ε
| FORMAL-PARAMETERS

FORMAL-PARAMETERS ::= ID-WITH-TYPE FORMAL-PARAM-TAIL

FORMAL-PARAM-TAIL ::= ε
| "," FORMAL-PARAMETERS

ID-WITH-TYPE ::= IDENTIFIER ":" TYPE

TYPE ::= "integer"
| "boolean"

BODY ::= PRINT-EXPRESSION BODY
| EXPRESSION

PRINT-EXPRESSION ::= "print" "(" EXPRESSION ")"

EXPRESSION ::= SIMPLE-EXPRESSION EXPRESSION-TAIL

EXPRESSION-TAIL ::= ε
| "==" EXPRESSION
| "<" EXPRESSION

SIMPLE-EXPRESSION ::= TERM SIMPLE-EXPRESSION-TAIL

SIMPLE-EXPRESSION-TAIL ::= ε
| "or" SIMPLE-EXPRESSION
| "+" SIMPLE-EXPRESSION
| "-" SIMPLE-EXPRESSION

TERM ::= FACTOR TERM-TAIL

TERM-TAIL ::= ϵ

| "and" TERM

| "*" TERM

| "/" TERM

FACTOR ::= LITERAL

| "not" FACTOR

| "-" FACTOR

| IDENTIFIER ARGUMENT-LIST

| "if" "(" EXPRESSION ")" EXPRESSION "else" EXPRESSION

| "(" EXPRESSION ")"

ARGUMENT-LIST ::= ϵ

| "(" FORMAL-ARGUMENTS ")"

FORMAL-ARGUMENTS ::= EXPRESSION FORMAL-ARGS-TAIL

FORMAL-ARGS-TAIL ::= ϵ

| "," FORMAL-ARGUMENTS

LITERAL ::= BOOLEAN-LITERAL

| INTEGER-LITERAL