program → · stmt_list
program' → · program
stmt → · IDASSIGN expr SEMICOLON
stmt → · IF LPAREN expr RPAREN stmt
stmt → · IF LPAREN expr RPAREN stmt ELSE stmt
stmt → · LBRACE stmt_list RBRACE
stmt → · WHILE LPAREN expr RPAREN stmt
stmt_list → · stmt
stmt_list → · stmt_list stmt

program' → program · program

program → stmt_list ·
stmt → · IDASSIGN expr SEMICOLON
stmt → · IF LPAREN expr RPAREN stmt
stmt → · IF LPAREN expr RPAREN stmt ELSE stmt
stmt → · LBRACE stmt_list RBRACE
stmt → · WHILE LPAREN expr RPAREN stmt
stmt_list → stmt_list · stmt

stmt_list

stmt_list → stmt ·

stmt

stmt → ID · ASSIGN expr SEMICOLON

ID

stmt → · IDASSIGN expr SEMICOLON
stmt → · IF LPAREN expr RPAREN stmt
stmt → · IF LPAREN expr RPAREN stmt ELSE stmt
stmt → · LBRACE stmt_list RBRACE
stmt → LBRACE · stmt_list RBRACE
stmt → · WHILE LPAREN expr RPAREN stmt
stmt_list → · stmt
stmt_list → · stmt_list stmt

LBRACE

stmt → IF · LPAREN expr RPAREN stmt
stmt → IF · LPAREN expr RPAREN stmt ELSE stmt

IF

stmt → WHILE · LPAREN expr RPAREN stmt

WHILE

ID

LBRACE

IF

WHILE

stmt_list → stmt_list stmt ·

stmt

expr → · expr MINUS term
expr → · expr PLUS term
expr → · term
factor → · ID
factor → · ID LBRACKET expr RBRACKET
factor → · LPAREN expr RPAREN
factor → · NUMBER
stmt → IDASSIGN · expr SEMICOLON
term → · factor
term → · term DIVIDE factor
term → · term TIMES factor

ASSIGN

stmt

ID

LBRACE

IF

WHILE

stmt → · IDASSIGN expr SEMICOLON
stmt → · IF LPAREN expr RPAREN stmt
stmt → · IF LPAREN expr RPAREN stmt ELSE stmt
stmt → · LBRACE stmt_list RBRACE
stmt → LBRACE stmt_list · RBRACE
stmt → · WHILE LPAREN expr RPAREN stmt
stmt_list → stmt_list · stmt

stmt_list

expr → · expr MINUS term
expr → · expr PLUS term
expr → · term
factor → · ID
factor → · ID LBRACKET expr RBRACKET
factor → · LPAREN expr RPAREN
factor → · NUMBER
stmt → IF LPAREN · expr RPAREN stmt
stmt → IF LPAREN · expr RPAREN stmt ELSE stmt
term → · factor
term → · term DIVIDE factor
term → · term TIMES factor

LPAREN

expr → · expr MINUS term
expr → · expr PLUS term
expr → · term
factor → · ID
factor → · ID LBRACKET expr RBRACKET
factor → · LPAREN expr RPAREN
factor → · NUMBER
stmt → WHILE LPAREN · expr RPAREN stmt
term → · factor
term → · term DIVIDE factor
term → · term TIMES factor

LPAREN

expr → expr · MINUS term
expr → expr · PLUS term
stmt → IDASSIGN expr · SEMICOLON

expr

expr → term ·
term → term · DIVIDE factor
term → term · TIMES factor

term

term → factor ·

factor

factor → ID ·
factor → ID · LBRACKET expr RBRACKET

ID

expr → · expr MINUS term
expr → · expr PLUS term
expr → · term
factor → · ID
factor → · ID LBRACKET expr RBRACKET
factor → · LPAREN expr RPAREN
factor → LPAREN · expr RPAREN
factor → · NUMBER
term → · factor
term → · term DIVIDE factor
term → · term TIMES factor

LPAREN

factor → NUMBER ·

NUMBER

ID

LBRACE

IF

WHILE

stmt

stmt → LBRACE stmt_list RBRACE · RBRACE

term

factor

ID

LPAREN

NUMBER

expr → expr · MINUS term
expr → expr · PLUS term
stmt → IF LPAREN expr · RPAREN stmt
stmt → IF LPAREN expr · RPAREN stmt ELSE stmt

expr

term

factor

ID

LPAREN

NUMBER

expr → expr · MINUS term
expr → expr · PLUS term
stmt → WHILE LPAREN expr · RPAREN stmt

expr

stmt → IDASSIGN expr SEMICOLON · SEMICOLON

expr → expr PLUS · term
factor → · ID
factor → · ID LBRACKET expr RBRACKET
factor → · LPAREN expr RPAREN
factor → · NUMBER
term → · factor
term → · term DIVIDE factor
term → · term TIMES factor

PLUS

expr → expr MINUS · term
factor → · ID
factor → · ID LBRACKET expr RBRACKET
factor → · LPAREN expr RPAREN
factor → · NUMBER
term → · factor
term → · term DIVIDE factor
term → · term TIMES factor

MINUS

factor → · ID
factor → · ID LBRACKET expr RBRACKET
factor → · LPAREN expr RPAREN
factor → · NUMBER

term → term TIMES · factor TIMES

factor → · ID
factor → · ID LBRACKET expr RBRACKET
factor → · LPAREN expr RPAREN
factor → · NUMBER
DIVIDE term → term DIVIDE · factor

expr → · expr MINUS term
expr → · expr PLUS term
expr → · term
factor → · ID
factor → · ID LBRACKET expr RBRACKET
factor → ID LBRACKET · expr RBRACKET
factor → · LPAREN expr RPAREN
factor → · NUMBER
term → · factor
term → · term DIVIDE factor
term → · term TIMES factor

LBRACKET

term

factor

ID

LPAREN

NUMBER

expr → expr · MINUS term
expr → expr · PLUS term
factor → LPAREN expr · RPAREN

expr

PLUS

MINUS

stmt → · IDASSIGN expr SEMICOLON
stmt → · IF LPAREN expr RPAREN stmt
stmt → IF LPAREN expr RPAREN · stmt
stmt → · IF LPAREN expr RPAREN stmt ELSE stmt
stmt → IF LPAREN expr RPAREN · stmt ELSE stmt
stmt → · LBRACE stmt_list RBRACE
stmt → · WHILE LPAREN expr RPAREN stmt

RPAREN

PLUS

MINUS

stmt → · IDASSIGN expr SEMICOLON
stmt → · IF LPAREN expr RPAREN stmt
stmt → · IF LPAREN expr RPAREN stmt ELSE stmt
stmt → · LBRACE stmt_list RBRACE
stmt → · WHILE LPAREN expr RPAREN stmt
stmt → WHILE LPAREN expr RPAREN · stmt

RPAREN

factor

ID

LPAREN

NUMBER

expr → expr PLUS term ·
term → term · DIVIDE factor
term → term · TIMES factor

term

factor

ID

LPAREN

NUMBER

expr → expr MINUS term ·
term → term · DIVIDE factor
term → term · TIMES factor

term

ID

LPAREN

NUMBER

term → term TIMES factor · factor

ID

LPAREN

NUMBER

term → term DIVIDE factor ·

factor

term

factor

ID

LPAREN

NUMBER

expr → expr · MINUS term
expr → expr · PLUS term
factor → ID LBRACKET expr · RBRACKET

expr

PLUS

MINUS

factor → LPAREN expr RPAREN ·
RPAREN

ID

LBRACE

IF

WHILE

stmt → IF LPAREN expr RPAREN stmt ·
stmt → IF LPAREN expr RPAREN stmt · ELSE stmt

stmt

ID

LBRACE

IF

WHILE stmt → WHILE LPAREN expr RPAREN stmt · stmt

TIMES

DIVIDE

TIMES
DIVIDE

PLUS

MINUS

factor → ID LBRACKET expr RBRACKET ·

RBRACKET

stmt → · IDASSIGN expr SEMICOLON
stmt → · IF LPAREN expr RPAREN stmt
stmt → · IF LPAREN expr RPAREN stmt ELSE stmt
stmt → IF LPAREN expr RPAREN stmt ELSE · stmt
stmt → · LBRACE stmt_list RBRACE
stmt → · WHILE LPAREN expr RPAREN stmt

ELSE

ID

LBRACE

IF

WHILE

stmt → IF LPAREN expr RPAREN stmt ELSE stmt ·

stmt