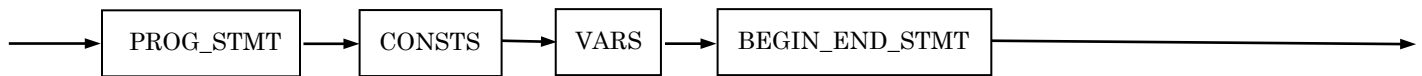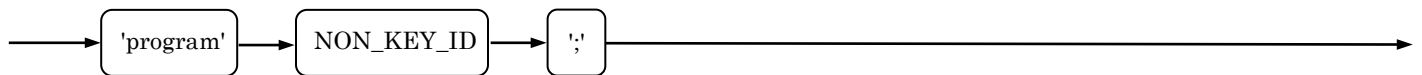**Syntax Chart - Stage 1**

Stage1 adds the assignment statement to the features available to the programmer. The major additions to stage1, not found in stage0, are the operand and operator stacks and the extensive reliance on temporary variables to hold intermediate results. Because of the manner in which stage0 was designed, the implementation of stage1 requires very little change in the shell which stage0 provided. For the most part, the changes are additions to existing code.
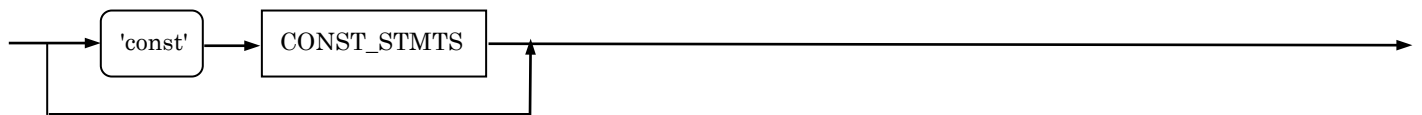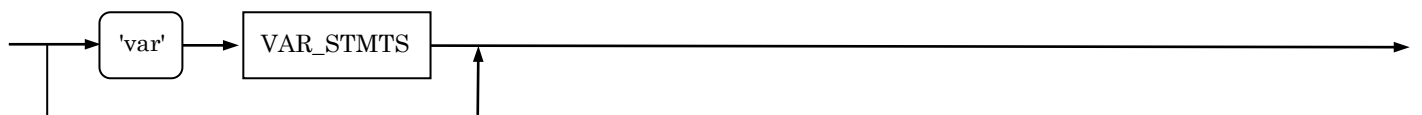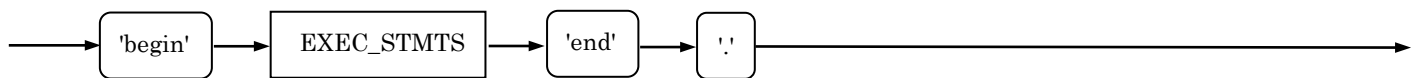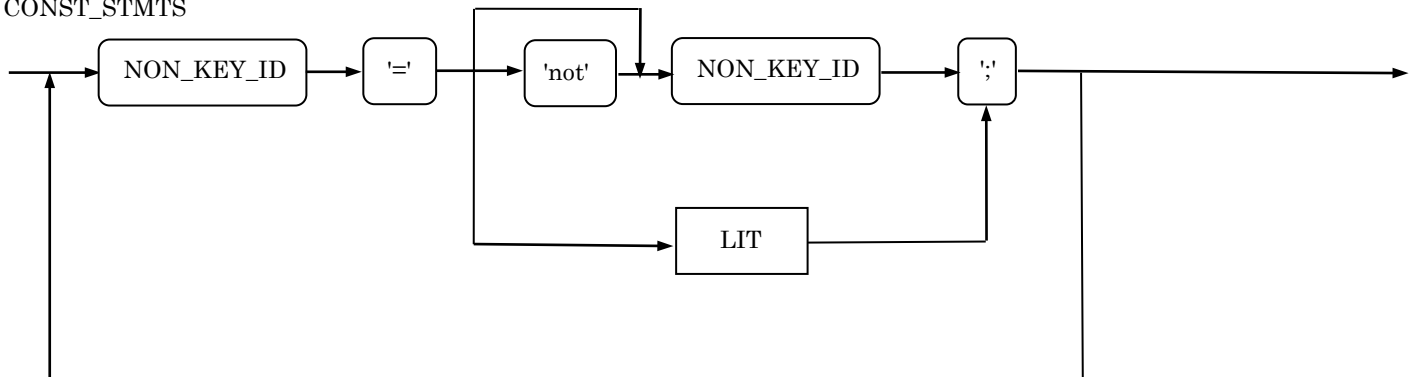
PROGRAM

```
→  PROG_STMT  →  CONSTS  →  VARS  →  BEGIN_END_STMT  →
```

PROG_STMT

```
→  'program'  →  NON_KEY_ID  →  ';'  →
```

CONSTS

```
→  'const'  →  CONST_STMTS  →
```

VARS

```
→  'var'  →  VAR_STMTS  →
```

BEGIN_END_STMT

```
→  'begin'  →  EXEC_STMTS  →  'end'  →  '.'  →
```

CONST_STMTS

```
→  NON_KEY_ID  →  '='  →  'not'  →  NON_KEY_ID  →  ';'  →
                              →  LIT  →
```
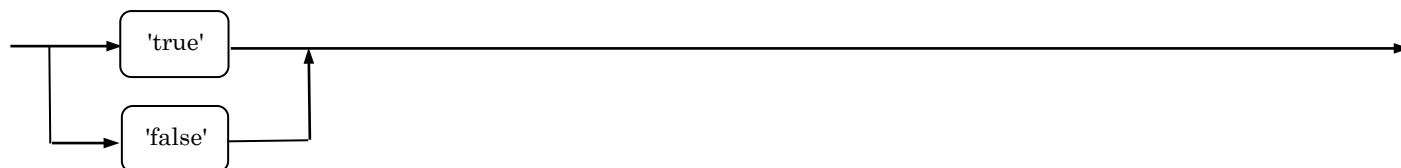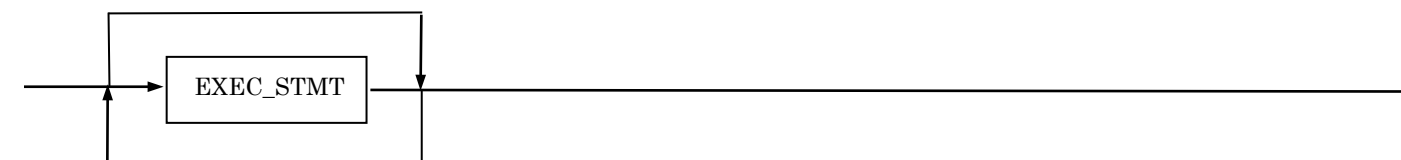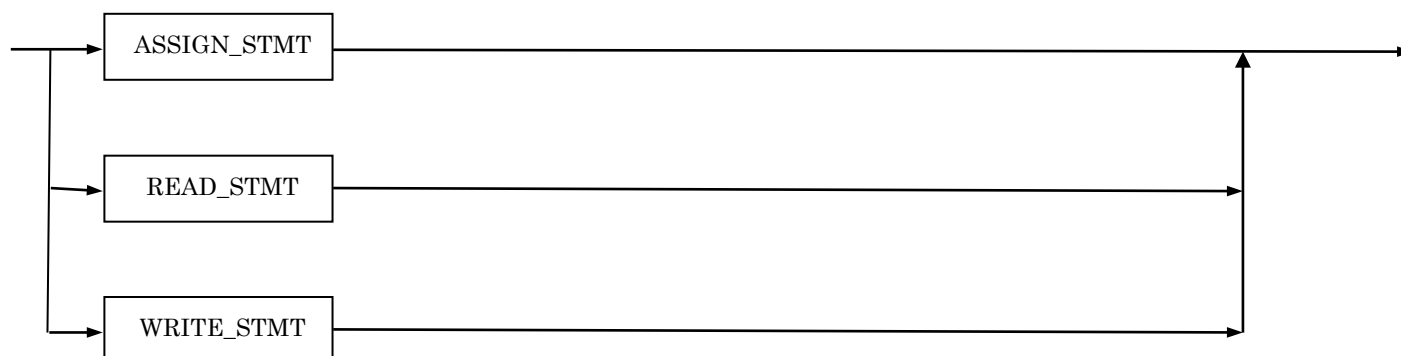
VAR_STMTS

```
→  IDS  →  ':'  →  TYPE  →  ';'  →
```
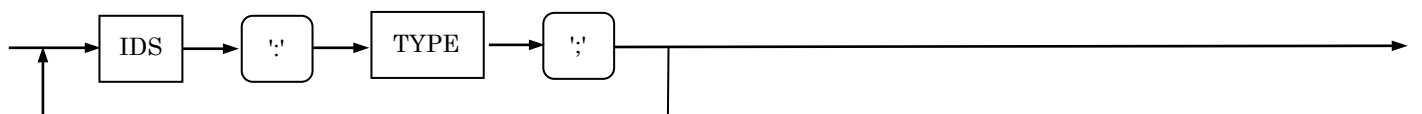
IDS
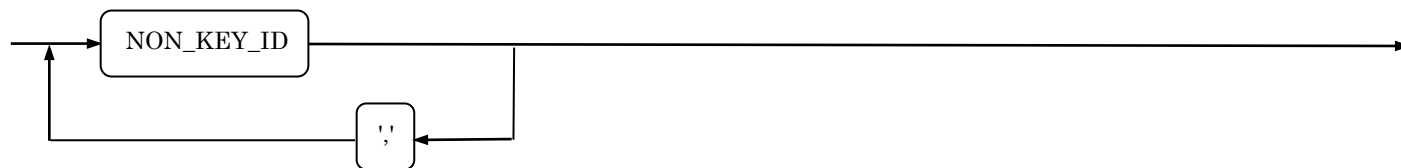
TYPE
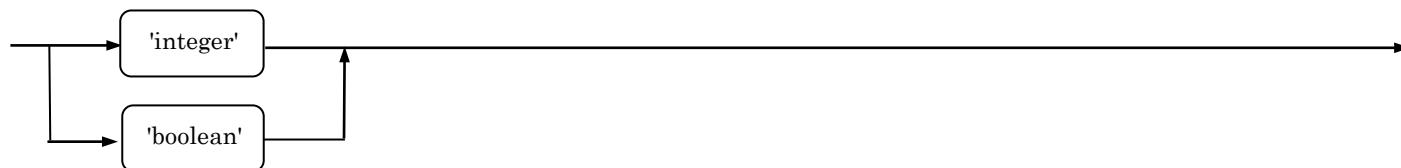
LIT
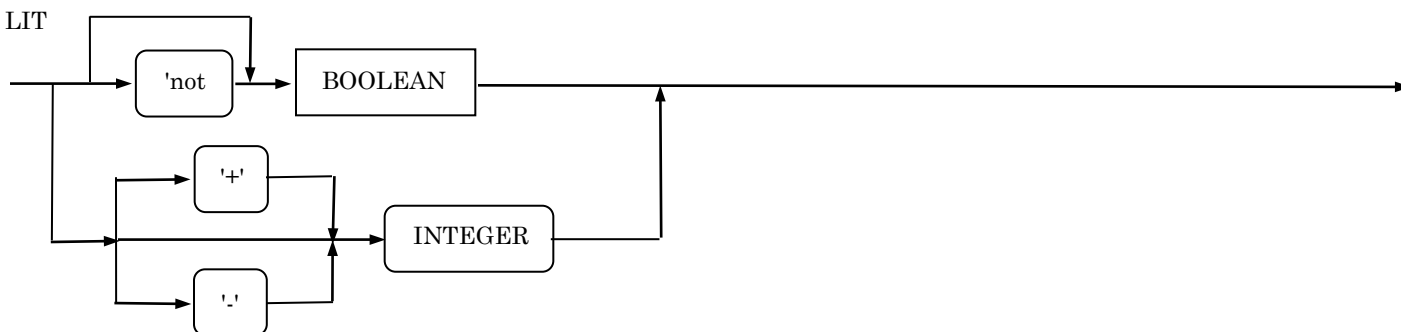
BOOLEAN

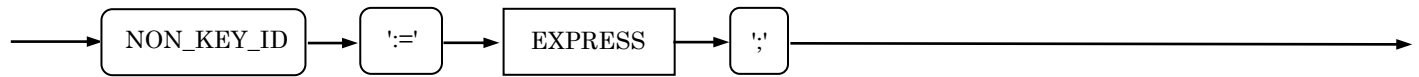EXEC_STMTS

EXEC_STMT

ASSIGN_STMT

→ NON_KEY_ID → ':=' → EXPRESS → ';' →

EXPRESS

→ TERM → EXPRESSES →

EXPRESSES

→ REL_OP → TERM →

TERM

→ FACTOR → TERMS →

TERMS

→ AD_LEV_OP → FACTOR →
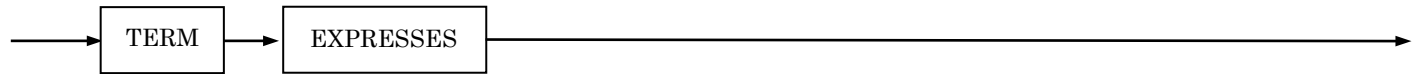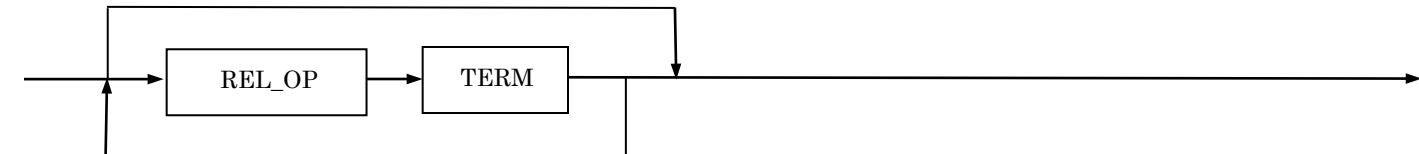
FACTOR
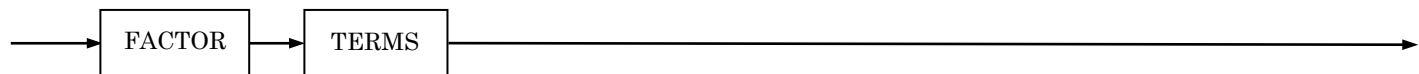
→ PART → FACTORS →
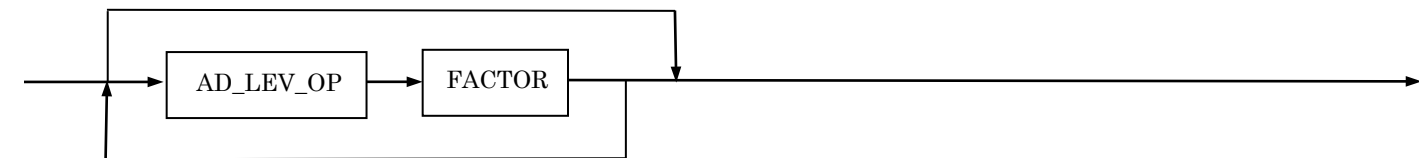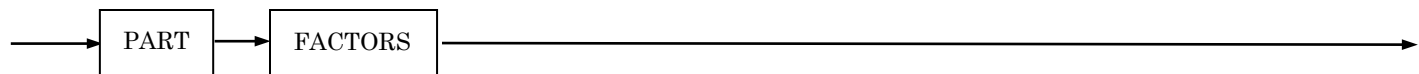
FACTORS
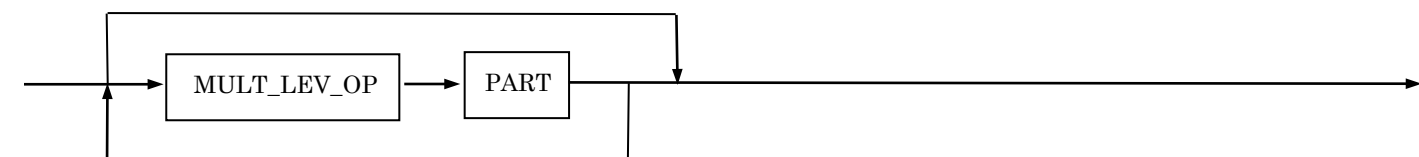
→ MULT_LEV_OP → PART →
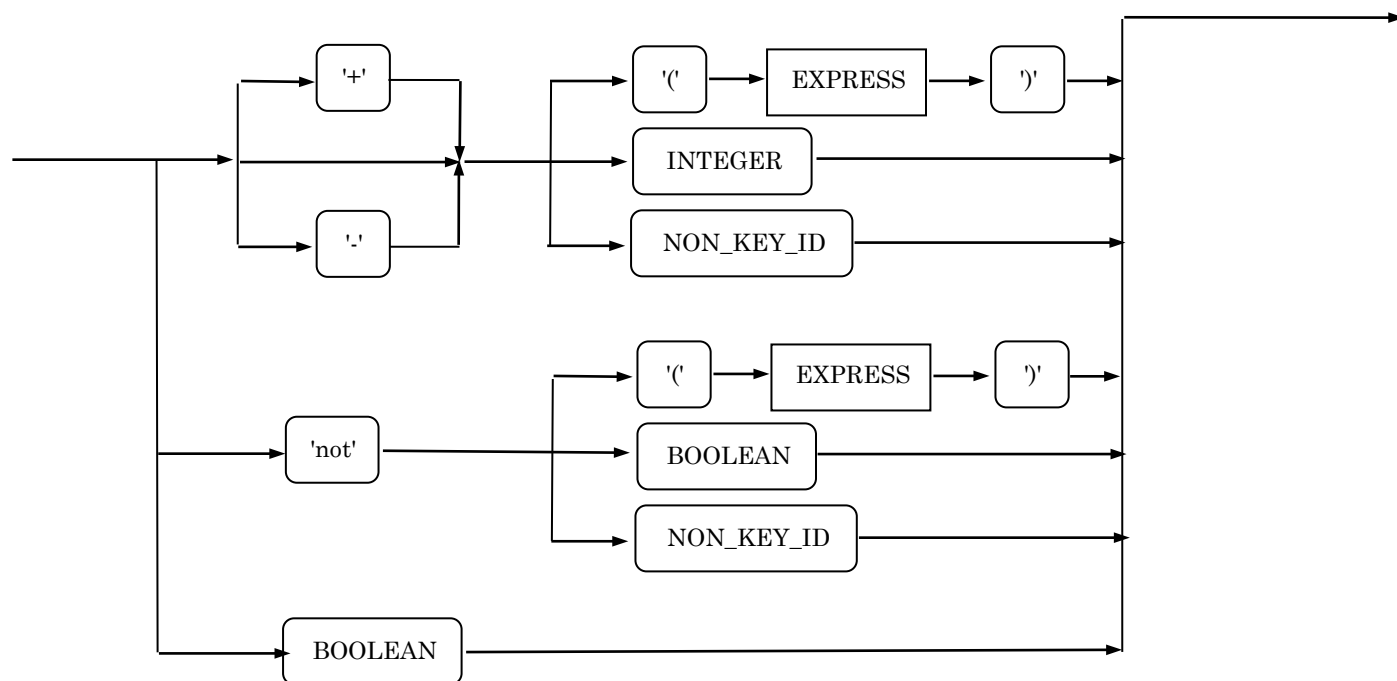
PART

REL_OP

ADD_LEV_OP

MULT_LEV_OP

```
                '*'

                'div'

                'mod'

                'and'
```

READ_STMT

```
        'read'  →  READ_LIST  →  ';'
```

READ_LIST

```
        '('  →  IDS  →  ')'
```

WRITE_STMT

```
        'write'  →  WRITE_LIST  →  ';'
```

WRITE_LIST

```
        '('  →  IDS  →  ')'
```