```
[1]
     <PROGRAM>
                              → <IDENT><ENV><DATA><PROC>
[2]
                                  identification division <END INST> program-id.
     <IDENT>
                                  ID < END \quad INST > author. \quad WORDS < END \quad INST >
                                  date-written. WORDS <END INST>
[3]
     <WORDS>
                                  ID < WORDS LR>
[4]
     <WORDS LR>
                                  ID < WORDS LR
[5]
[6]
                                  ID
[7]
     <END INST>
                                  \cdot n
                              \rightarrow
[8]
     <\!\!\mathrm{ENV}\!\!>
                                  environment division<END INST> configuration
                                  section<END INST> source-computer.
                                  WORDS<END INST> object-computer.
                                  WORDS<END INST>
[9]
     <DATA>
                                  data division<END INST> working-storage
                                  section {<} END \quad INST {>} < VAR \quad LIST {>}
[10]
     <VAR LIST>
                                  <VAR DECL> <VAR LIST>
[11]
                              \rightarrow \varepsilon
[12]
     <VAR DECL>
                              → <LEVEL> ID pic IMAGE <VAR DECL TAIL>
[13]
     <VAR DECL TAIL>
                              \rightarrow value INTEGER<END INST>
                                  value INTEGER<END INST>
[14]
     <LEVEL>
                                  INTEGER
[15]
     <PROC>
                                  procedure division<END INST> ID
[16]
                                  section <END INST > <LABELS > end program ID.
[17]
     <LABELS>
                                  <LABEL><END INST> <INSTRUCTION LIST>
                                  <LABELS LR>
[18]
                                  <LABEL><END INST> <INSTRUCTION LIST>
     <LABELS LR>
                                  <LABELS_LR>
[19]
[20]
                                  <LABEL><END INST> <INSTRUCTION LIST>
[21]
     <LABEL>
[22]
     <INSTRUCTION LIST>
                                  <INSTRUCTION> <INSTRUCTIONLIST>
[23]
[24]
    <INSTRUCTIONS>
                                  <ASSIGNATION>
[25]
                              \rightarrow <IF>
[26]
                                 <CALL>
[27]
                                 \langle \text{READ} \rangle
[28]
                                 <WRITE>
[29]
                                  stop run<END INST>
[30]
     <ASSIGNATION>
                                  move <EXPRESSION> to ID<END INST>
                                  compute \ ID = <\!EXPRESSION\!\!><\!END \ \ INST\!\!>
[31]
[32]
                                  add <EXPRESSION> to ID<END INST>
[33]
                                  subtract <EXPRESSION> from ID<END INST>
[34]
                                  multiply <ASSING END><END INST>
[35]
                                  divide <ASSING END><END INST>
[36]
     <ASSIGN END>
                                  <EXPRESSION>,<EXPRESSION> giving ID
[37]
     <EXPRESSION>
                              \rightarrow <EXPRESSION> <OP> <EXPRESSION>
[38]
                              \rightarrow (\langle EXPRESSION \rangle)
[39]
                              \rightarrow - < EXPRESSION >
```

```
[40]
                                 \rightarrow not <EXPRESSION>
[41]
                                      ID
[42]
                                      INTEGER
[43]
                                      true
[44]
                                      false
[45]
     <OP>
[46]
                                      <
[47]
                                 \rightarrow >
[48]
                                     \leq =
[49]
                                 \rightarrow >=
[50]
                                      and
[51]
                                      or
[52]
                                      +
[53]
[54]
[55]
    <IF>
                                 \rightarrow \quad if < \!\! EXPRESSION \!\! > then < \!\! INSTRUCTION \quad LIST \!\! >
[56]
                                      <IF_END>
[57]
     <IF END>
                                      else <INSTRUCTION_LIST> end-if
[58]
                                      end-if
[59]
     <CALL>
                                      perform ID < CALL TAIL>
[60]
     <CALL_TAIL>
                                      until <EXPRESSION><END_INST>
[61]
                                      <END_INST>
     <READ>
                                 \rightarrow accept ID<END INST>
[62]
                                 \rightarrow display <WRITE_TAIL>
[63]
     <WRITE>
[64]
     \rightarrow <EXPRESSION><END INST>
[65]
                                 \rightarrow STRING<END_INST>
```