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CONTENTS

COBOL Syntax Reference Guide

I. COBOL Character Set

The following lists are in ascending order:

EBCDIC		ASCII	
	space		space
.	period, decimal point	"	quotation mark
<	less than	$	dollar sign
(	left parenthesis	'	single quotation mark
+	plus symbol	(	left parenthesis
$	dollar sign	)	right parenthesis

*	asterisk, multiplication	*	asterisk, multiplication
)	right parenthesis	+	plus symbol
;	semicolon	,	comma
-	hyphen, minus sign	-	hyphen, minus sign
/	slash, division	.	period, decimal point
,	comma	/	slash, division
>	greater than	0–9	digits
'	single quotation mark	;	semicolon
=	equal sign	<	less than
"	quotation mark	=	equal sign
a–z	lowercase letters	>	greater than
A–Z	uppercase letters	A–Z	uppercase letters
0–9	digits	a–z	lowercase letters

II. COBOL Reserved Words

Each COBOL compiler has a list of reserved words that:

1. Includes all entries in the ANS COBOL standard.
2. Includes additional entries not part of the standard but that are either VAX or IBM compiler extensions. These are called enhancements.

The following is based on the 1974 and 1985 American National Standard. You may find that your computer has additional reserved words. Diagnostic messages will print if you are using a reserved word incorrectly.

New reserved words that are not relevant for COBOL 74, but are relevant only for COBOL 85, are denoted with a single asterisk (*). COBOL 74 reserved words that are *not* reserved in the new standard are denoted with a double asterisk (**). Words in red are VAX COBOL 85 extensions. Words in blue are IBM COBOL 85 extensions. Boxed words are both VAX and IBM COBOL 85 extensions.

ACCEPT
ACCESS
ACTUAL
ADD
ADVANCING
AFTER
ALL
ALLOWING
ALPHABET *
ALPHABETIC
ALPHABETIC-LOWER *
ALPHABETIC-UPPER *
ALPHANUMERIC *
ALPHANUMERIC-EDITED *
ALSO
ALTER
ALTERNATE
AND
ANY *
APPLY
ARE
AREA
CHARACTERS
CLASS *
CLOCK-UNITS
CLOSE
COBOL
CODE
CODE-SET
COLLATING
COLUMN
COM-REG
COMMA
COMMIT
COMMON
COMMUNICATION
COMP
COMP-1
COMP-2
COMP-3
COMP-4
COMP-5
COMP-6
COMPUTATIONAL

AREAS
ASCENDING
ASSIGN
AT
AUTHOR
AUTOTERMINATE

BASIS
BATCH
BEFORE
BEGINNING
BELL
BINARY *
BIT
BITS
BLANK
BLINKING
BLOCK
BOLD
BOOLEAN
BOTTOM
BY

CALL
CANCEL
CBL
CD
CF
CH
CHARACTER
COMPUTATIONAL-1
COMPUTATIONAL-2
COMPUTATIONAL-3
COMPUTATIONAL-4
COMPUTATIONAL-5
COMPUTATIONAL-6
COMPUTE
CONCURRENT
CONFIGURATION
CONNECT
CONSOLE
CONTAIN
CONTAINS
CONTENT *
CONTINUE *
CONTROL
CONTROLS
CONVERSION
CONVERTING *
COPY
CORE-INDEX
CORR
CORRESPONDING
COUNT
CURRENCY
CURRENT
CURRENT-DATE

DATA
DATE

```
DATE-COMPILED
DATE-WRITTEN
DAY
DAY-OF-WEEK *
DB
DB-ACCESS-CONTROL-KEY
DB-CONDITION
DB-CURRENT-RECORD-ID
DB-CURRENT-RECORD-NAME
DB-EXCEPTION
DBKEY
DB-KEY
DB-RECORD-NAME
DB-SET-NAME
DB-STATUS
DEBUG-SUB
DB-UWA
DE
DEBUG-CONTENTS
DEBUG-ITEM
DEBUG-LENGTH
DEBUG-LINE
DEBUG-NAME
DEBUG-NUMERIC-CONTENTS
DEBUG-SIZE
DEBUG-START
DEBUG-SUB
DEBUG-SUB-1
DEBUG-SUB-2
DEBUG-SUB-3
```

```
ECHO
EGCS
EGI
EJECT
ELSE
EMI
EMPTY
ENABLE
END
END-ACCEPT
END-ADD *
END-CALL *
END-COMMIT
END-COMPUTE *
END-CONNECT
END-DELETE *
END-DISCONNECT
END-DIVIDE *
END-ERASE
END-EVALUATE *
END-FETCH
END-FIND
END-FINISH
END-FREE
END-GET
END-IF *
ENDING
END-KEEP
END-MODIFY
END-MULTIPLY *
```

DEBUG-SUB-ITEM
DEBUG-SUB-N
DEBUG-SUM-NUM
DEBUGGING
DECIMAL-POINT
DECLARATIVES
DEFAULT
DELETE
DELIMITED
DELIMITER
DEPENDING
DESCENDING
DESCRIPTOR
DESTINATION
DETAIL
DICTIONARY
DISABLE
DISCONNECT
DISP
DISPLAY
DISPLAY-1
DISPLAY-6
DISPLAY-7
DISPLAY-9
DIVIDE
DIVISION
DOES
DOWN
DUPLICATE
DUPLICATES
DYNAMIC

END-OF-PAGE
END-PERFORM *
END-READ *
END-READY
END-RECEIVE *
END-RECONNECT
END-RETURN *
END-REWRITE *
END-ROLLBACK
END-SEARCH *
END-START *
END-STORE
END-STRING *
END-SUBTRACT *
END-UNSTRING *
END-WRITE *
ENTER
ENTRY
ENVIRONMENT
EOP
EQUAL
EQUALS
ERASE
ERROR
ESI
EVALUATE *
EVERY **
EXCEEDS
EXCEPTION
EXCLUSIVE
EXIT

EXOR
EXTEND
EXTERNAL *

FAILURE
FALSE *
FD
FETCH
FILE
FILE-CONTROL
FILE-LIMIT
FILE-LIMITS
FILLER
FINAL
FIND
FINISH
FIRST
FOOTING
FOR
FREE
FROM

GENERATE
GET
GIVING
GLOBAL *
GO
GOBACK
GREATER
GROUP

KEEP
KEY

LABEL
LAST
LD
LEADING
LEAVE
LEFT
LENGTH
LESS
LIMIT
LIMITS
LINAGE
LINAGE-COUNTER
LINE
LINE-COUNTER
LINES
LINKAGE
LOCALLY
LOCK
LOW-VALUE
LOW-VALUES

MATCH
MATCHES
MEMBER
MEMBERSHIP
MEMORY **
MERGE

HEADING
HIGH-VALUE
HIGH-VALUES

ID
IDENTIFICATION
IF
IN
INCLUDING
INDEX
INDEXED
INDICATE
INITIAL
INITIALIZE *
INITIATE
INPUT
INPUT-OUTPUT
INSERT
INSPECT
INSTALLATION
INTO
INVALID
I-O
I-O-CONTROL
IS

JUST
JUSTIFIED

KANJI

MESSAGE
MODE
MODIFY
MODULES **
MORE-LABELS
MOVE
MULTIPLE
MULTIPLY

NATIVE
NEGATIVE
NEXT
NO
NOMINAL
NON-NULL
NONE
NOT
NOTE
NULL
NULLS
NUMBER
NUMERIC
NUMERIC-EDITED

OBJECT-COMPUTER
OCCURS
OF
OFF
OFFSET
OMITTED

ON
ONLY
OPEN
OPTIONAL
OR
ORDER *
ORGANIZATION
OTHER *
OTHERS
OUTPUT
OVERFLOW
OWNER

PACKED-DECIMAL *
PADDING *
PAGE
PAGE-COUNTER
PARAGRAPH
PASSWORD
PERFORM
PF
PH
PIC
PICTURE
PLUS
POINTER
POSITION
POSITIVE
PRESENT
PRINTING

REFERENCE-MODIFIER
REFERENCES
REGARDLESS
RELATIVE
RELEASE
RELOAD
REMAINDER
REMOVAL
RENAMES
REPLACE *
REPLACING
REPORT
REPORTING
REPORTS
REREAD
RERUN
RESERVE
RESET
RETAINING
RETRIEVAL
RETURN
RETURN-CODE
REVERSED
REWIND
REWRITE
RF
RH
RIGHT
RMS-FILENAME
RMS-STS

PRIOR
PROCEDURE
PROCEDURES
PROCEED
PROGRAM
PROGRAM-ID
PROTECTED
PURGE *

QUEUE
QUOTE
QUOTES

RANDOM
RD
READ
READERS
READY
REALM
REALMS
RECEIVE
RECONNECT
RECORD
RECORD-NAME
RECORD-OVERFLOW
RECORDING
RECORDS
REDEFINES
REEL
REFERENCE *

RMS-STV
ROLLBACK
ROUNDED
RUN

SAME
SCREEN
SD
SEARCH
SECTION
SECURITY
SEGMENT
SEGMENT-LIMIT
SELECT
SEND
SENTENCE
SEPARATE
SEQUENCE
SEQUENCE-NUMBER
SEQUENTIAL
SERVICE
SET
SETS
SHIFT-IN
SHIFT-OUT
SIGN
SIZE
SKIP-1
SKIP-2
SKIP-3

SORT
SORT-CONTROL
SORT-CORE-SIZE
SORT-FILE-SIZE
SORT-MERGE
SORT-MESSAGE
SORT-MODE-SIZE
SORT-RETURN
SOURCE
SOURCE-COMPUTER
SPACE
SPACES
SPECIAL-NAMES
STANDARD
STANDARD-1
STANDARD-2 *
START
STATUS
STOP
STORE
STRING
SUB-QUEUE-1
SUB-QUEUE-2
SUB-QUEUE-3
SUB-SCHEMA
SUBTRACT
SUCCESS
SUM
SUPPRESS
SYMBOLIC
SYNC

TOP
TRAILING
TRUE *
TYPE

UNDERLINED
UNEQUAL
UNIT
UNLOCK
UNSTRING
UNTIL
UP
UPDATE
UPDATERS
UPON
USAGE
USAGE-MODE
USE
USING

VALUE
VALUES
VARYING

WAIT
WHEN
WHEN-COMPILED
WHERE
WITH
WITHIN
WORDS **

```
SYNCHRONIZED                    WORKING-STORAGE
                                WRITE
TABLE                           WRITE-ONLY
TALLY                           WRITERS
TALLYING
TAPE                            ZERO
TENANT                          ZEROES
TERMINAL                        ZEROS
TERMINATE
TEST                            +
TEXT                            -
THAN                            *
THEN *                          /
THROUGH                         **
THRU                            >
TIME                            <
TIME-OF-DAY                     =
TIMES                           >= *
TITLE                           <= *
TO
```

III. Complete COBOL Language Formats

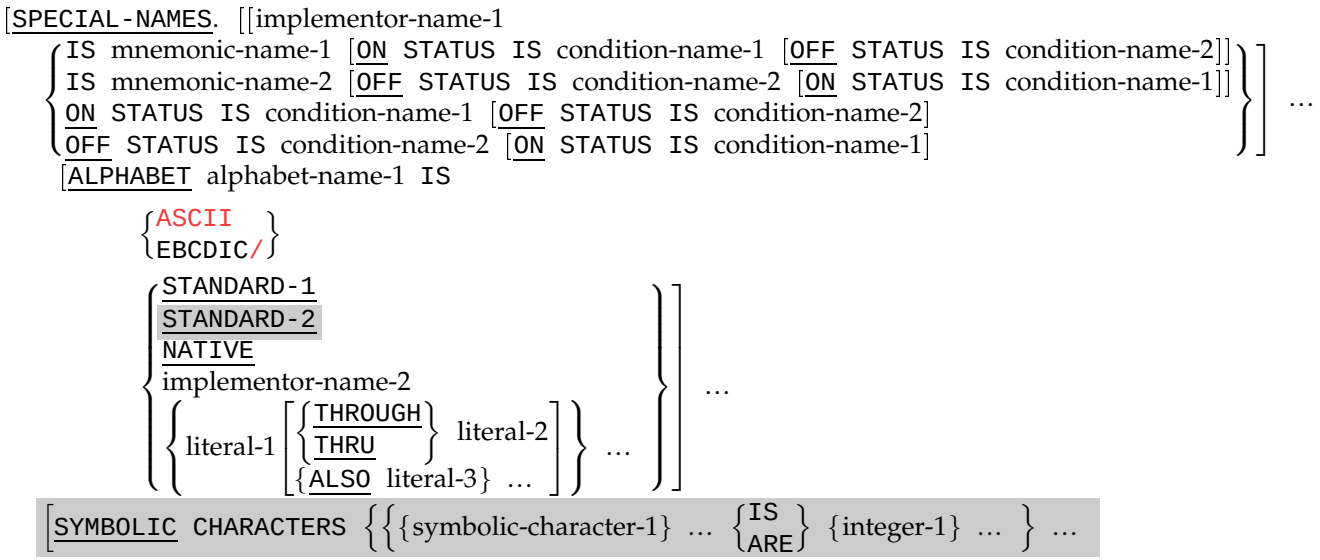
This guide contains the composite language formats of the American National Standard COBOL. Shaded entries are those that are applicable to COBOL 85 only. Entries in blue are IBM extensions. Entries in red are VAX extensions. Entries with an * are both IBM and VAX extensions.

General Format for IDENTIFICATION DIVISION

```
{IDENTIFICATION DIVISION.}
{ID DIVISION.            }

PROGRAM-ID. program-name [IS {COMMON  } PROGRAM].
                             {INITIAL }

[AUTHOR. [comment-entry] ... ]
[INSTALLATION. [comment-entry] ... ]
[DATE-WRITTEN. [comment-entry] ... ]
[DATE-COMPILED. [comment-entry] ... ]
[SECURITY. [comment-entry] ... ]
```

General Format for ENVIRONMENT DIVISION*

```
[ENVIRONMENT DIVISION.
[CONFIGURATION SECTION.
[SOURCE-COMPUTER. [computer-name [WITH DEBUGGING MODE].]]
[OBJECT-COMPUTER. [computer-name
     [PROGRAM COLLATING SEQUENCE IS alphabet-name-1]
     [SEGMENT-LIMIT IS segment-number].]]
```



*The ENVIRONMENT DIVISION, CONFIGURATION SECTION, and INPUT-OUTPUT SECTION entries are required for COBOL 74.

```
    [IN alphabet-name-2]}] ...
[CLASS class-name IS {literal-4 [{THROUGH} literal-5]} ... ] ...
[CURRENCY SIGN IS literal-6]
[DECIMAL-POINT IS COMMA].]]]
[INPUT-OUTPUT SECTION.
FILE-CONTROL.
    {file-control-entry} ...
[I-O-CONTROL.
    [[SAME [RECORD      ] ] AREA FOR file-name-1 {file-name-2} ... ] ...
                [SORT        ]
                [SORT-MERGE  ]
    [MULTIPLE FILE TAPE CONTAINS
        {file-name-3 [POSITION integer-1]} ... ] ... .]]]]
```

General Format for `FILE-CONTROL` Entry

SEQUENTIAL FILE

```
SELECT [OPTIONAL] file-name-1
```

```
    ASSIGN TO {implementor-name-1} ...
              {literal-1          }
    [ RESERVE integer-1 [AREA ] ]
                        [AREAS]
    [[ORGANIZATION IS] SEQUENTIAL]
    [ BLOCK CONTAINS [smallest-block TO] blocksize {RECORDS   } ]
                                                   {CHARACTERS}
    [CODE-SET IS alpha-name]
    [PADDING CHARACTER IS {data-name-1} ]
                          {literal-2   }
    [RECORD DELIMITER IS {STANDARD-1       } ]
                         {implementor-name-2}
    [ACCESS MODE IS SEQUENTIAL]
    [FILE STATUS IS data-name-2].
```

RELATIVE FILE

```
SELECT [OPTIONAL] file-name-1
    ASSIGN TO {implementor-name-1} ...
              {literal-1          }
    [RESERVE integer-1 [AREA ]]
                       [AREAS]
```

```
[ORGANIZATION IS] RELATIVE
[BLOCK CONTAINS [smallest-block TO] blocksize {RECORDS / CHARACTERS}]
[PASSWORD IS data-name]

[ACCESS MODE IS {SEQUENTIAL [RELATIVE KEY IS data-name-1]
                {RANDOM / DYNAMIC} RELATIVE KEY IS data-name-1}]
[FILE STATUS IS data-name-2].
```

INDEXED FILE

```
SELECT [OPTIONAL] file-name-1
    ASSIGN TO {implementor-name-1 / literal-1} ...
    [RESERVE integer-1 [AREA / AREAS]]
    [ORGANIZATION IS] INDEXED
    [BLOCK CONTAINS [smallest-block TO] blocksize {RECORDS / CHARACTERS}]
    [PASSWORD IS data-name]
```

```
[ACCESS MODE IS {SEQUENTIAL}]
               {RANDOM    }
               {DYNAMIC   }
```

```
RECORD KEY IS data-name-1
[ALTERNATE RECORD KEY IS data-name-2 [WITH DUPLICATES]] ...
[FILE STATUS IS data-name-3].
```

SORT OR MERGE FILE

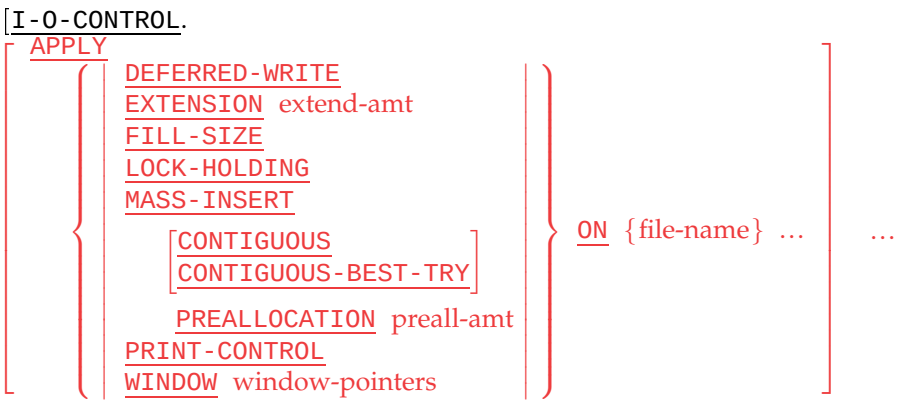
```
SELECT file-name-1 ASSIGN TO {implementor-name-1} ... .
                             {literal-1          }
```

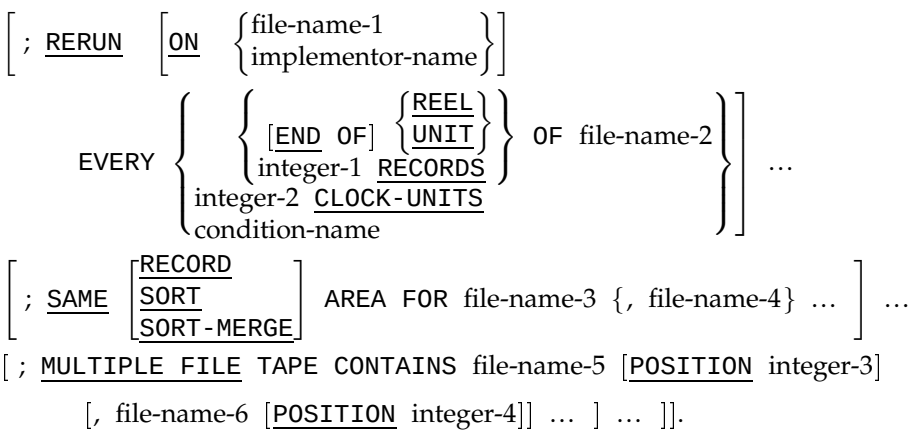
REPORT FILE

```
SELECT [OPTIONAL] file-name-1
    ASSIGN TO {implementor-name-1} ...
              {literal-1          }
    [RESERVE integer-1 [AREA ]]
                       [AREAS]
    [[ORGANIZATION IS] SEQUENTIAL]
    [ BLOCK CONTAINS [smallest-block TO] blocksize {RECORDS   }]
                                                   {CHARACTERS}
    [CODE-SET IS alpha-name]
```

```
[PADDING CHARACTER IS {data-name-1}]
                      {literal-1   }
[RECORD DELIMITER IS {STANDARD-1        }]
                     {implementor-name-2}
[ACCESS MODE IS SEQUENTIAL]
[FILE STATUS IS data-name-2].
```

General Format—I-O-CONTROL





General Format for DATA DIVISION

```
[DATA DIVISION.
[SUB-SCHEMA SECTION. [subschema-entry [keeplist-entry] ... ]]
[FILE SECTION.
[file-description-entry
{record-description-entry} ... ] ...
[sort-merge-file-description-entry
{record-description-entry} ... ] ...
[report-file-description-entry] ... ]
```

```
[WORKING-STORAGE SECTION.
 [77-level-description-entry]
 [record-description-entry  ]  ... ]
[LINKAGE SECTION.
 [77-level-description-entry]
 [record-description-entry  ]  ... ]
[COMMUNICATION SECTION.
[communication-description-entry
 [record-description-entry] ... ] ... ]
[REPORT SECTION.
[report-description-entry
 {report-group-description-entry} ... ] ... ]]
```

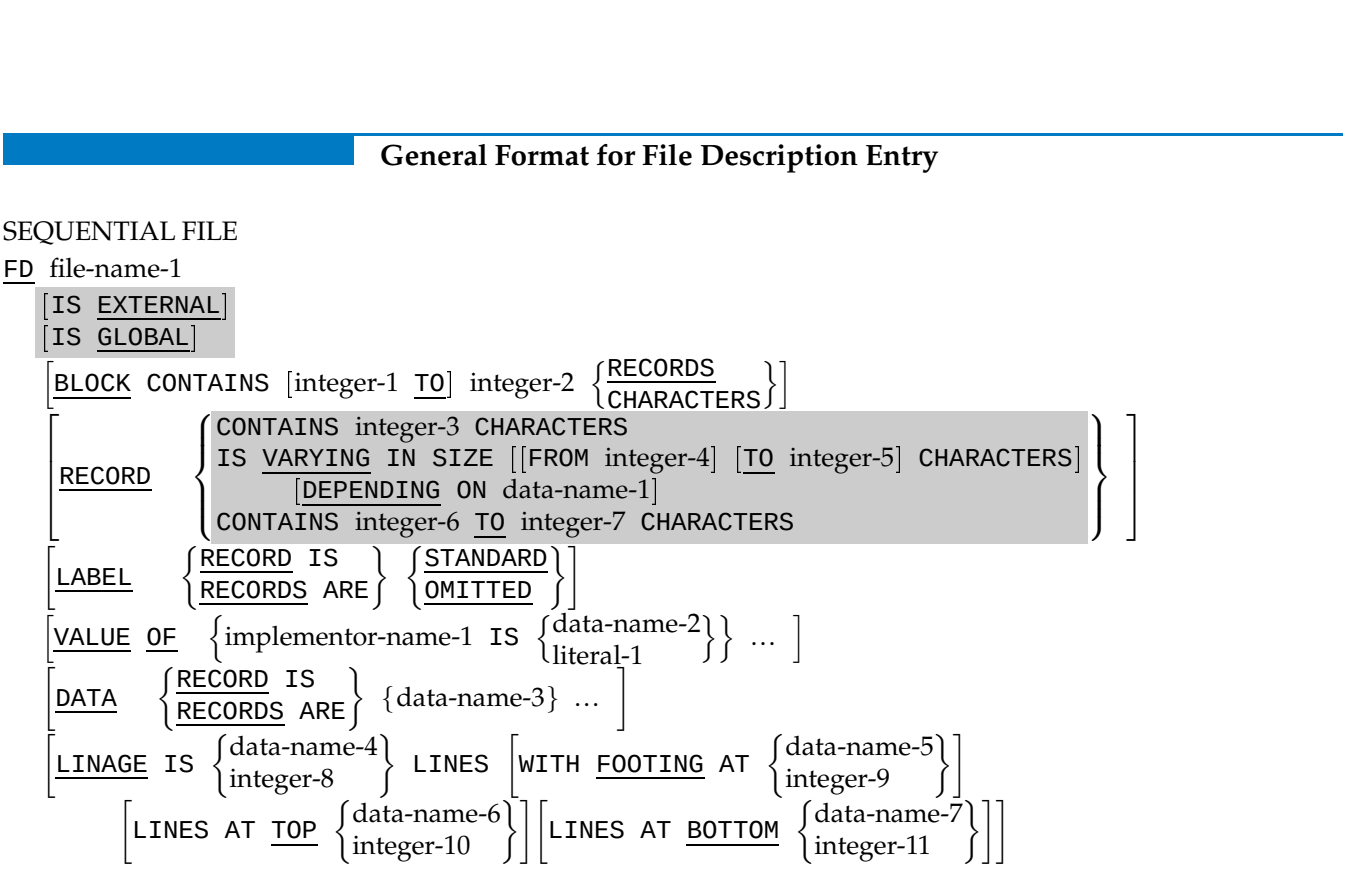
General Format—Subschema Description

```
DB  subschema-name  WITHIN  schema-name
    [FOR  database-name]  [ { THRU    }  stream-name ]
                          { THROUGH }
```

General Format—Keeplist Description

```
LD  keeplist-name  [LIMIT IS integer].
```

General Format for File Description Entry



```
[CODE-SET IS alphabet-name-1].
[[ACCESS MODE IS] SEQUENTIAL]
[FILE STATUS IS file-status].

RELATIVE FILE
FD file-name-1
   [IS EXTERNAL]
   [IS GLOBAL]
   [BLOCK CONTAINS [integer-1 TO] integer-2 {RECORDS    }]
                                            {CHARACTERS}
   [RECORD {CONTAINS integer-3 CHARACTERS                                    }]
           {IS VARYING IN SIZE [[FROM integer-4][TO integer-5] CHARACTERS]   }
           {     [DEPENDING ON data-name-1]                                  }
           {CONTAINS integer-6 TO integer-7 CHARACTERS                       }
   [LABEL  {RECORD IS } {STANDARD}]
           {RECORDS ARE} {OMITTED }
   [VALUE OF {implementor-name-1 IS {data-name-2}} ... ]
                                    {literal-1  }
   [DATA  {RECORD IS } {data-name-3} ... ].
          {RECORDS ARE}
   [ACCESS MODE IS] {SEQUENTIAL [RELATIVE KEY IS rel-key]                }
                    {{RANDOM   } RELATIVE KEY IS rel-key                 }
                    {{DYNAMIC  }                                         }
```

```
[FILE STATUS IS file-status]
```

INDEXED FILE

```
FD file-name-1
   [IS EXTERNAL]
   [IS GLOBAL]
   [BLOCK CONTAINS [integer-1 TO] integer-2 {RECORDS | CHARACTERS}]
   [RECORD {CONTAINS integer-3 CHARACTERS
          | IS VARYING IN SIZE [[FROM integer-4][TO integer-5] CHARACTERS]
              [DEPENDING ON data-name-1]
          | CONTAINS integer-6 TO integer-7 CHARACTERS}]
   [LABEL {RECORD IS | RECORDS ARE} {STANDARD | OMITTED}]
   [VALUE OF {implementor-name-1 IS {data-name-2 | literal-1}} ...]
   [DATA {RECORD IS | RECORDS ARE} (data-name-3) ...].
   [[ACCESS MODE IS] {SEQUENTIAL | RANDOM | DYNAMIC}]
   RECORD KEY IS rec-key
   [ALTERNATE RECORD KEY IS alt-key [WITH DUPLICATES]] ...
   [FILE STATUS IS file-status].
```

SORT-MERGE FILE

```
SD  file-name-1
    [ RECORD { CONTAINS integer-1 CHARACTERS                                          } ]
             { IS VARYING IN SIZE [[FROM integer-2] [TO integer-3] CHARACTERS]        }
             {      [DEPENDING ON data-name-1]                                        }
             { CONTAINS integer-4 TO integer-5 CHARACTERS                             }
    [ DATA { RECORD IS  } {data-name-2} ... ]
           { RECORDS ARE}
```

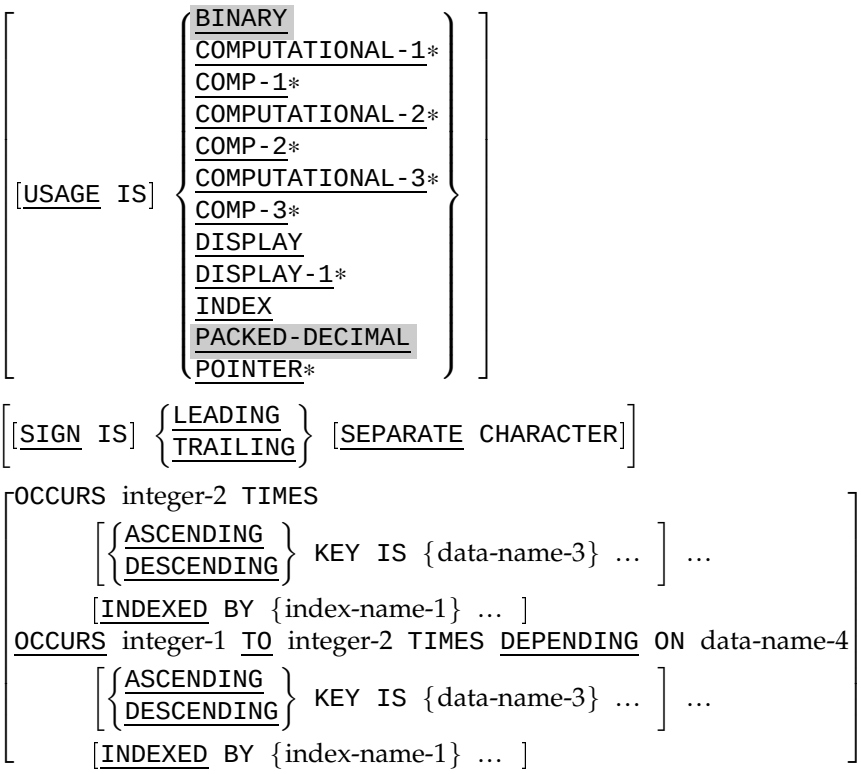
REPORT FILE

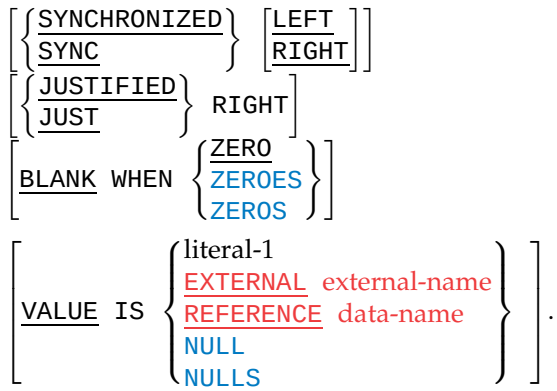
```
FD  file-name-1
    [IS EXTERNAL]
    [IS GLOBAL]
    [BLOCK CONTAINS [integer-1 TO] integer-2 { RECORDS    }]
                                             { CHARACTERS }
    [ RECORD { CONTAINS integer-3 CHARACTERS                                          } ]
             { IS VARYING IN SIZE [[FROM integer-4][TO integer-5] CHARACTERS]         }
             {      [DEPENDING ON data-name-1]                                        }
             { CONTAINS integer-6 TO integer-7 CHARACTERS                             }
    [ LABEL { RECORD IS  } { STANDARD } ]
            { RECORDS ARE} { OMITTED  }
    [ VALUE OF { implementor-name-1 IS { data-name-2 } } ... ]
               {                       { literal-1   } }
```

```
[[ACCESS MODE IS] SEQUENTIAL]
[CODE-SET IS alphabet-name-1]
{REPORT IS  } {report-name-1} ...
{REPORTS ARE}
[FILE STATUS IS file-status].
```

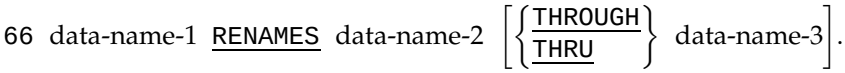
General Format for Data Description Entry

```
FORMAT 1
level-number [data-name-1]
             [FILLER    ]
   [REDEFINES data-name-2]
   [IS EXTERNAL]
   [IS GLOBAL]
   [{PICTURE} IS character-string]
    {PIC    }
```

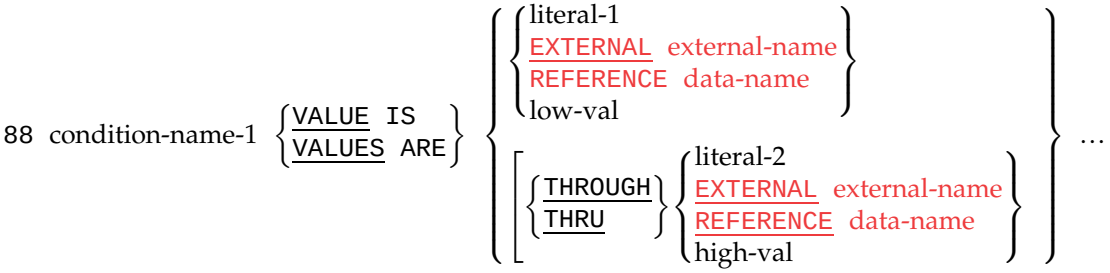

[USAGE IS]
BINARY
COMPUTATIONAL-1*
COMP-1*
COMPUTATIONAL-2*
COMP-2*
COMPUTATIONAL-3*
COMP-3*
DISPLAY
DISPLAY-1*
INDEX
PACKED-DECIMAL
POINTER*
[SIGN IS] LEADING TRAILING [SEPARATE CHARACTER]
OCCURS integer-2 TIMES
[ASCENDING DESCENDING] KEY IS {data-name-3} ...] ...
[INDEXED BY {index-name-1} ...]
OCCURS integer-1 TO integer-2 TIMES DEPENDING ON data-name-4
[ASCENDING DESCENDING] KEY IS {data-name-3} ...] ...
[INDEXED BY {index-name-1} ...]


SYNCHRONIZED
SYNC
LEFT
RIGHT
JUSTIFIED
JUST
RIGHT
BLANK WHEN
ZERO
ZEROES
ZEROS
VALUE IS
literal-1
EXTERNAL external-name
REFERENCE data-name
NULL
NULLS

FORMAT 2


66 data-name-1 RENAMES data-name-2
THROUGH
THRU
data-name-3

FORMAT 3


88 condition-name-1
VALUE IS
VALUES ARE
literal-1
EXTERNAL external-name
REFERENCE data-name
low-val
THROUGH
THRU
literal-2
EXTERNAL external-name
REFERENCE data-name
high-val
...

General Format for Communication Description Entry

FORMAT 1

CD cd-name-1

```
                      ┌[[SYMBOLIC QUEUE IS data-name-1]                 ┐
                      │     [SYMBOLIC SUB-QUEUE-1 IS data-name-2]       │
                      │     [SYMBOLIC SUB-QUEUE-2 IS data-name-3]       │
                      │     [SYMBOLIC SUB-QUEUE-3 IS data-name-4]       │
                      │     [MESSAGE DATE IS data-name-5]               │
                      │     [MESSAGE TIME IS data-name-6]               │
                      │     [SYMBOLIC SOURCE IS data-name-7]            │
  FOR [INITIAL] INPUT │     [TEXT LENGTH IS data-name-8]                │
                      │     [END KEY IS data-name-9]                    │
                      │     [STATUS KEY IS data-name-10]                │
                      │     [MESSAGE COUNT IS data-name-11]]            │
                      │[data-name-1, data-name-2, data-name-3,          │
                      │     data-name-4, data-name-5, data-name-6,      │
                      │     data-name-7, data-name-8, data-name-9,      │
                      └     data-name-10, data-name-11]                 ┘
```

FORMAT 2

```
CD cd-name-1 FOR OUTPUT
   [DESTINATION COUNT IS data-name-1]
   [TEXT LENGTH IS data-name-2]
   [STATUS KEY IS data-name-3]
   [DESTINATION TABLE OCCURS integer-1 TIMES
       [INDEXED BY {index-name-1} ... ]]
   [ERROR KEY IS data-name-4]
   [SYMBOLIC DESTINATION IS data-name-5].
```

FORMAT 3

```
CD cd-name-1
                       ⎡[[MESSAGE DATE IS data-name-1]                     ⎤
                       ⎢     [MESSAGE TIME IS data-name-2]                 ⎥
                       ⎢     [SYMBOLIC TERMINAL IS data-name-3]            ⎥
   FOR [INITIAL] I-O   ⎢     [TEXT LENGTH IS data-name-4]                  ⎥
                       ⎢     [END KEY IS data-name-5]                      ⎥
                       ⎢     [STATUS KEY IS data-name-6]]                  ⎥
                       ⎢[data-name-1, data-name-2, data-name-3,            ⎥
                       ⎣     data-name-4, data-name-5, data-name-6]        ⎦
```

General Format for Report Description Entry

```
RD report-name-1
   [IS GLOBAL]
   [CODE literal-1]
```

```
[{CONTROL IS  }  [{data-name-1} ...        ]]
[{CONTROLS ARE}  [{FINAL[data-name-1] ...  }]]
[ PAGE [LIMIT IS ] integer-1 [LINE ] [HEADING integer-2]
       [LIMITS ARE]          [LINES]
    [FIRST DETAIL integer-3] [LAST DETAIL integer-4]
    [FOOTING integer-5]].
```

General Format for Report Group Description Entry

FORMAT 1

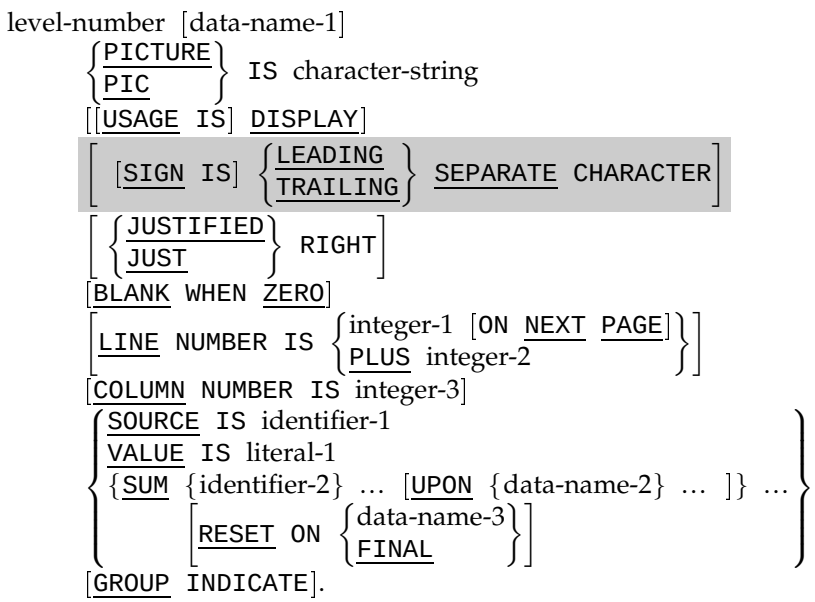
```
01 [data-name-1]
   [LINE NUMBER IS {integer-1 [ON NEXT PAGE]}]
                   {PLUS integer-2          }
   [NEXT GROUP IS {integer-3      }]
                  {PLUS integer-4 }
                  {NEXT PAGE      }
```

```
          ⎧ {REPORT HEADING}                                    ⎫
          ⎪ {RH            }                                    ⎪
          ⎪ {PAGE HEADING}                                      ⎪
          ⎪ {PH          }                                      ⎪
          ⎪ {CONTROL HEADING}  {data-name-2}                    ⎪
          ⎪ {CH             }  {FINAL      }                    ⎪
TYPE IS   ⎨ {DETAIL}                                            ⎬
          ⎪ {DE    }                                            ⎪
          ⎪ {CONTROL FOOTING}  {data-name-3}                    ⎪
          ⎪ {CF             }  {FINAL      }                    ⎪
          ⎪ {PAGE FOOTING}                                      ⎪
          ⎪ {PF          }                                      ⎪
          ⎪ {REPORT FOOTING}                                    ⎪
          ⎩ {RF            }                                    ⎭
[[USAGE IS] DISPLAY].
```

FORMAT 2

```
level-number [data-name-1]
    [LINE NUMBER IS {integer-1 [ON NEXT PAGE]}]
                    {PLUS integer-2          }
    [[USAGE IS] DISPLAY].
```

FORMAT 3


level-number [data-name-1]
{PICTURE / PIC} IS character-string
[[USAGE IS] DISPLAY]
[[SIGN IS] {LEADING / TRAILING} SEPARATE CHARACTER]
[{JUSTIFIED / JUST} RIGHT]
[BLANK WHEN ZERO]
[LINE NUMBER IS {integer-1 [ON NEXT PAGE] / PLUS integer-2}]
[COLUMN NUMBER IS integer-3]
{ SOURCE IS identifier-1
VALUE IS literal-1
{SUM {identifier-2} … [UPON {data-name-2} …]} …
[RESET ON {data-name-3 / FINAL}] }
[GROUP INDICATE].

General Format for PROCEDURE DIVISION

FORMAT 1

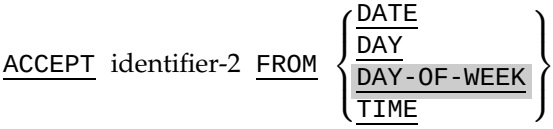
```
[PROCEDURE DIVISION [USING {data-name-1} ... ] [GIVING identifier-1].
[DECLARATIVES.
{section-name SECTION [segment-number].
     USE statement.
[paragraph-name.
     [sentence] ... ] ... } ...
 END DECLARATIVES.]
{section-name SECTION [segment-number].
[paragraph-name.
     [sentence] ... ] ... } ... ]
```

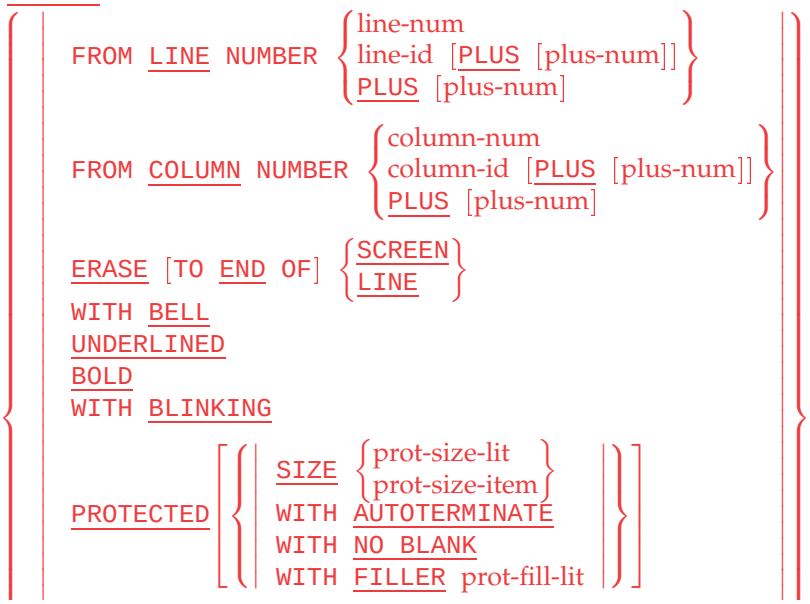
FORMAT 2

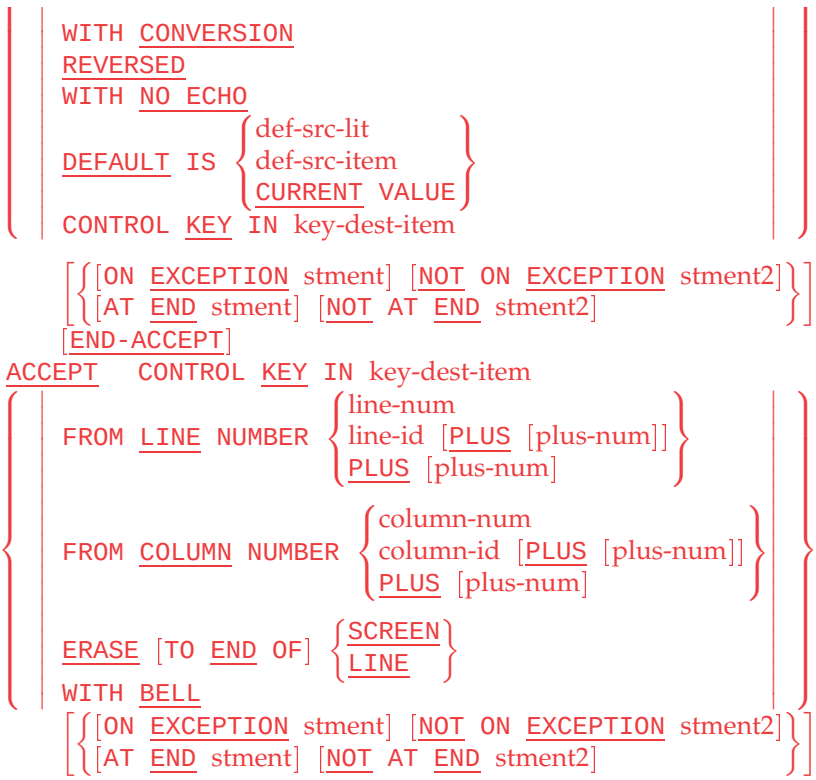
```
[PROCEDURE DIVISION [USING {data-name-1} ... ] [GIVING identifier-1].
{paragraph-name.
     [sentence] ... } ... ]
```

General Format for COBOL Verbs

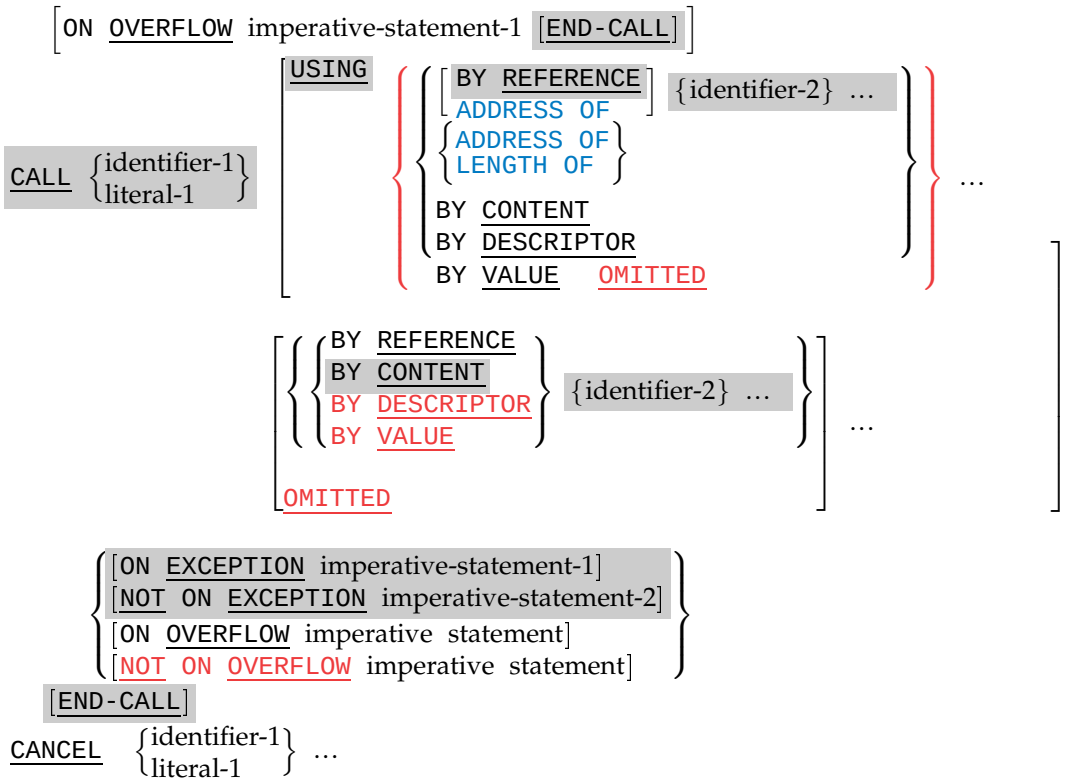
```
ACCEPT identifier-1 [FROM mnemonic-name-1]
     [AT END imperative statement-1]
     [NOT AT END imperative statement-2]
     [END-ACCEPT]
```


ACCEPT identifier-2 FROM
DATE
DAY
DAY-OF-WEEK
TIME


ACCEPT dest-item
FROM LINE NUMBER
line-num
line-id [PLUS [plus-num]]
PLUS [plus-num]
FROM COLUMN NUMBER
column-num
column-id [PLUS [plus-num]]
PLUS [plus-num]
ERASE [TO END OF]
SCREEN
LINE
WITH BELL
UNDERLINED
BOLD
WITH BLINKING
PROTECTED
SIZE
prot-size-lit
prot-size-item
WITH AUTOTERMINATE
WITH NO BLANK
WITH FILLER prot-fill-lit


WITH CONVERSION
REVERSED
WITH NO ECHO
DEFAULT IS
def-src-lit
def-src-item
CURRENT VALUE
CONTROL KEY IN key-dest-item
[ON EXCEPTION stment] [NOT ON EXCEPTION stment2]
[AT END stment] [NOT AT END stment2]
[END-ACCEPT]
ACCEPT CONTROL KEY IN key-dest-item
FROM LINE NUMBER
line-num
line-id [PLUS [plus-num]]
PLUS [plus-num]
FROM COLUMN NUMBER
column-num
column-id [PLUS [plus-num]]
PLUS [plus-num]
ERASE [TO END OF]
SCREEN
LINE
WITH BELL
[ON EXCEPTION stment] [NOT ON EXCEPTION stment2]
[AT END stment] [NOT AT END stment2]

```
    [END-ACCEPT]
ACCEPT cd-name-1 MESSAGE COUNT

ADD {identifier-1 / literal-1} ... TO {identifier-2 [ROUNDED]} ...
    [ON SIZE ERROR imperative-statement-1]
    [NOT ON SIZE ERROR imperative-statement-2]
    [END-ADD]

ADD {identifier-1 / literal-1} ... TO {identifier-2 / literal-2}
    GIVING {identifier-3 [ROUNDED]} ...
    [ON SIZE ERROR imperative-statement-1]
    [NOT ON SIZE ERROR imperative-statement-2]
    [END-ADD]

ADD {CORRESPONDING / CORR} identifier-1 TO identifier-2 [ROUNDED]
    [ON SIZE ERROR imperative-statement-1]
    [NOT ON SIZE ERROR imperative-statement-2]
    [END-ADD]

ALTER {procedure-name-1 TO [PROCEED TO] procedure-name-2} ...

CALL {identifier-1 / literal-1} [ USING { [BY REFERENCE] {identifier-2} ... / BY CONTENT {identifier-2} ... } ... ]
```


ON OVERFLOW imperative-statement-1 [END-CALL]
CALL {identifier-1 / literal-1}
USING
BY REFERENCE
ADDRESS OF
{identifier-2} ...
ADDRESS OF
LENGTH OF
BY CONTENT
BY DESCRIPTOR
BY VALUE
OMITTED
BY REFERENCE
BY CONTENT
BY DESCRIPTOR
BY VALUE
{identifier-2} ...
OMITTED
[ON EXCEPTION imperative-statement-1]
[NOT ON EXCEPTION imperative-statement-2]
[ON OVERFLOW imperative statement]
[NOT ON OVERFLOW imperative statement]
[END-CALL]
CANCEL {identifier-1 / literal-1} ...

SW **CLOSE** { file-name-1 [{ **REEL** / **UNIT** } [**FOR REMOVAL**] / **WITH** { **NO REWIND** / **LOCK** }] } …

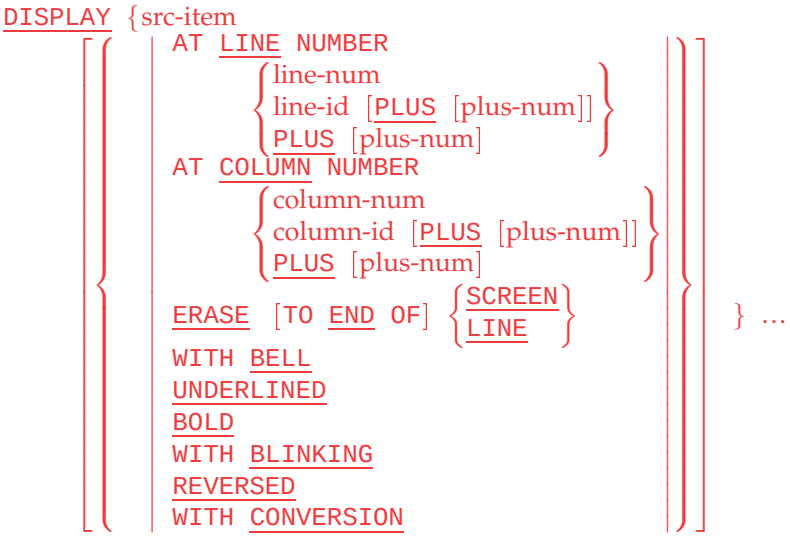
RI **CLOSE** {file-name-1 [**WITH LOCK**]} …

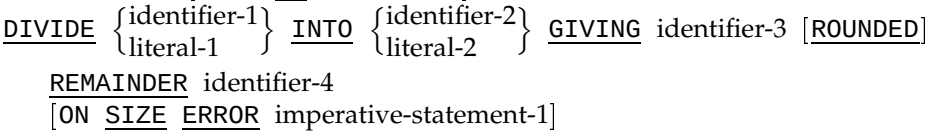
COMMIT [**RETAINING**]
[**ON ERROR** stment]
[**NOT ON ERROR** stment2]
[**END-COMMIT**]

COMPUTE {identifier-1 [**ROUNDED**]} … { **=** / **EQUAL** } arithmetic-expression-1
[**ON SIZE ERROR** imperative-statement-1]
[**NOT ON SIZE ERROR** imperative-statement-2]
[**END-COMPUTE**]

CONNECT [record-name] **TO** { {set-name} … / **ALL** }
[**RETAINING** [(**REALM** / **RECORD** / { **SET** [set-name] … / {set-name} … })] **CURRENCY**]
[**ON ERROR** stment] [**NOT ON ERROR** stment2]
[**END-CONNECT**]

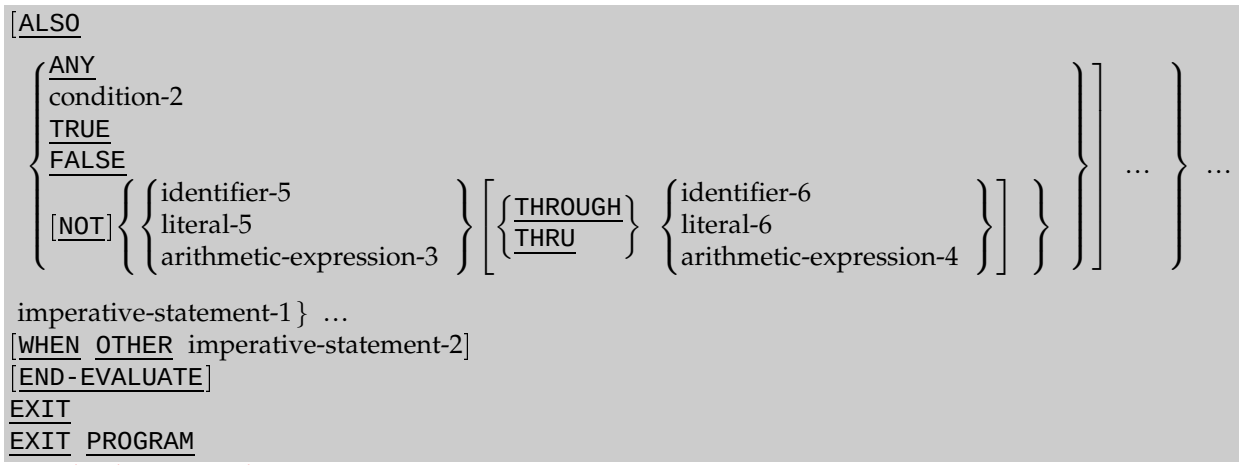
```
CONTINUE
DELETE file-name-1 RECORD
   [INVALID KEY imperative-statement-1]
   [NOT INVALID KEY imperative-statement-2]
   [END-DELETE]
DISABLE { INPUT [TERMINAL] } cd-name-1
        { I-O TERMINAL     }
        { OUTPUT           }
DISCONNECT [record-name] FROM { {set-name} ... }
                              { ALL            }
   [ON ERROR stment]
   [NOT ON ERROR stment2]
   [END-DISCONNECT]
DISPLAY { identifier-1 } ... [UPON { CONSOLE                } ] [WITH NO ADVANCING]
        { literal-1    }           { SYSOUT                 }
                                   { mnemonic-name-1]       }
```

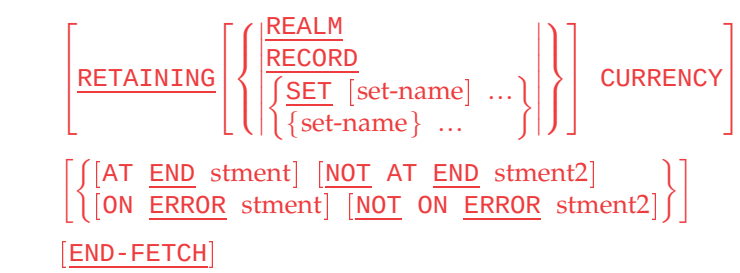

DISPLAY {src-item
AT LINE NUMBER
line-num
line-id [PLUS [plus-num]]
PLUS [plus-num]
AT COLUMN NUMBER
column-num
column-id [PLUS [plus-num]]
PLUS [plus-num]
ERASE [TO END OF] SCREEN
LINE
WITH BELL
UNDERLINED
BOLD
WITH BLINKING
REVERSED
WITH CONVERSION
} ...
[WITH NO ADVANCING]

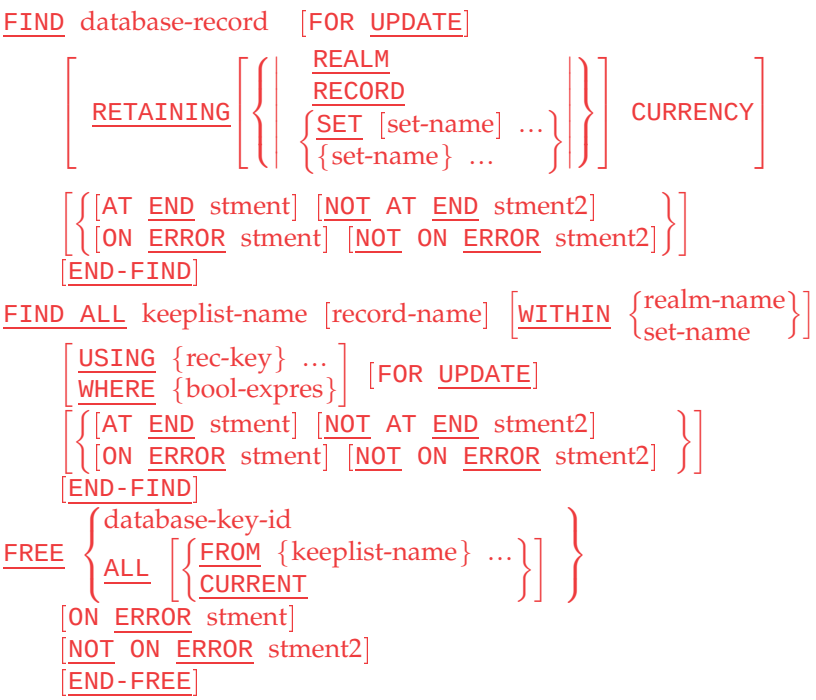

DIVIDE identifier-1 literal-1 INTO identifier-2 literal-2 GIVING identifier-3 [ROUNDED]
REMAINDER identifier-4
[ON SIZE ERROR imperative-statement-1]

```
    [NOT ON SIZE ERROR imperative-statement-2]
    [END-DIVIDE]
DIVIDE   {identifier-1} BY {identifier-2} GIVING identifier-3 [ROUNDED]
         {literal-1   }    {literal-2   }
    REMAINDER identifier-4
    [ON SIZE ERROR imperative-statement-1]
    [NOT ON SIZE ERROR imperative-statement-2]
    [END-DIVIDE]

DIVIDE   {identifier-1} INTO {identifier-2 [ROUNDED]} ...
         {literal-1   }
    [ON SIZE ERROR imperative-statement-1]
    [NOT ON SIZE ERROR imperative-statement-2]
    [END-DIVIDE]

DIVIDE   {identifier-1} INTO {identifier-2}
         {literal-1   }      {literal-2   }
    GIVING {identifier-3 [ROUNDED]} ...
    [ON SIZE ERROR imperative-statement-1]
    [NOT ON SIZE ERROR imperative-statement-2]
    [END-DIVIDE]
DIVIDE   {identifier-1} BY {identifier-2}
         {literal-1   }    {literal-2   }
    GIVING {identifier-3 [ROUNDED]} ...
    [ON SIZE ERROR imperative-statement-1]
```

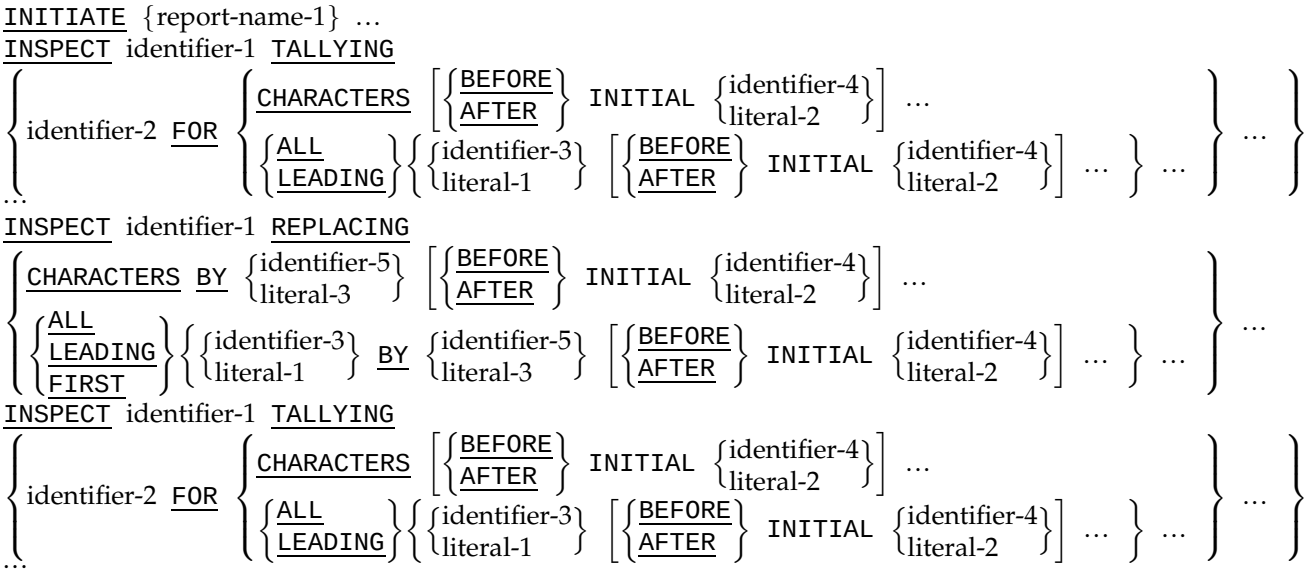
```
[NOT ON SIZE ERROR imperative-statement-2]
[END-DIVIDE]

ENABLE { INPUT [TERMINAL] }
       { I-O TERMINAL     }  cd-name-1
       { OUTPUT           }

ENTRY literal USING identifier-1 ...
ERASE [ALL] [record-name]
      [ON ERROR stment]
      [NOT ON ERROR stment2]
      [END-ERASE]

EVALUATE { identifier-1 }   [ ALSO { identifier-2 } ]
         { literal-1    }   [      { literal-2    } ]
         { expression-1 }   [      { expression-2 } ] ...
         { TRUE         }   [      { TRUE         } ]
         { FALSE        }   [      { FALSE        } ]
   {{WHEN
    { ANY
    { condition-1
    { TRUE
    { FALSE
    { [NOT] {{ identifier-3                 }} [ { THROUGH } { identifier-4                 } ] }
    {       {{ literal-3                    }} [ { THRU    } { literal-4                    } ] }
    {       {{ arithmetic-expression-1      }} [             { arithmetic-expression-2      } ] }
```

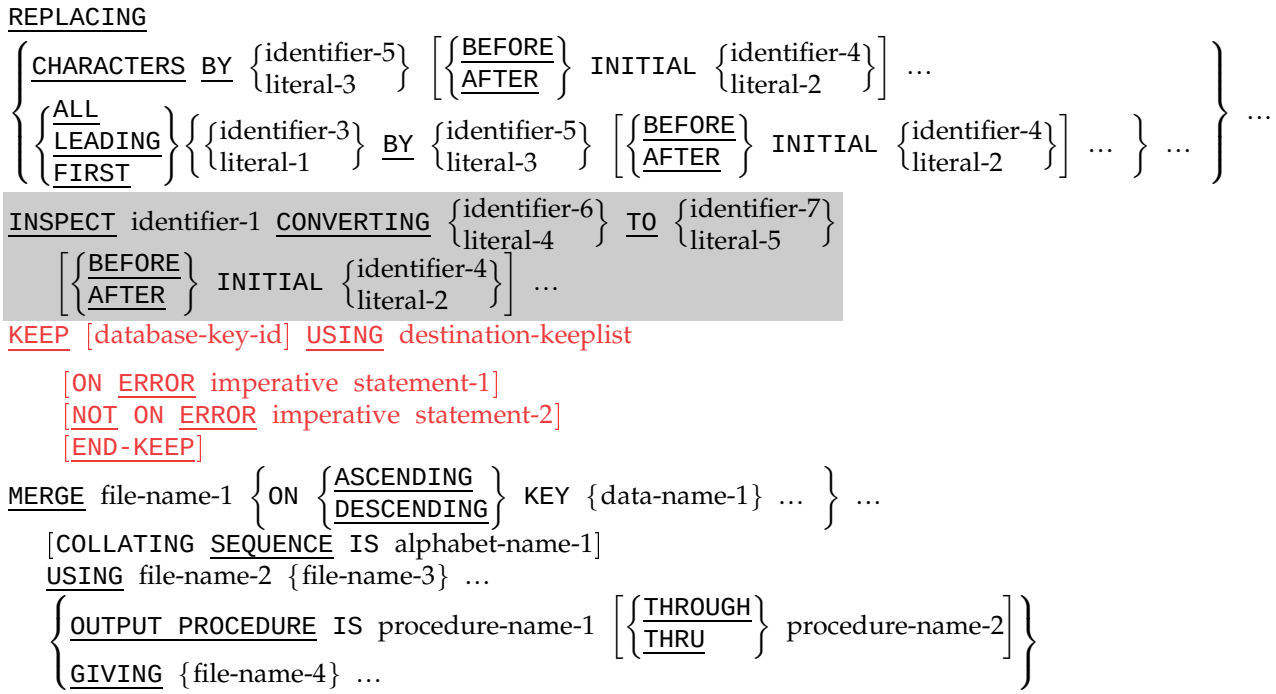

[ALSO
ANY
condition-2
TRUE
FALSE
[NOT]
identifier-5
literal-5
arithmetic-expression-3
THROUGH
THRU
identifier-6
literal-6
arithmetic-expression-4
imperative-statement-1} …
[WHEN OTHER imperative-statement-2]
[END-EVALUATE]
EXIT
EXIT PROGRAM


FETCH database-record
[FOR UPDATE]
[RETAINING
REALM
RECORD
SET [set-name] …
{set-name} …
CURRENCY]
[AT END stment] [NOT AT END stment2]
[ON ERROR stment] [NOT ON ERROR stment2]
[END-FETCH]

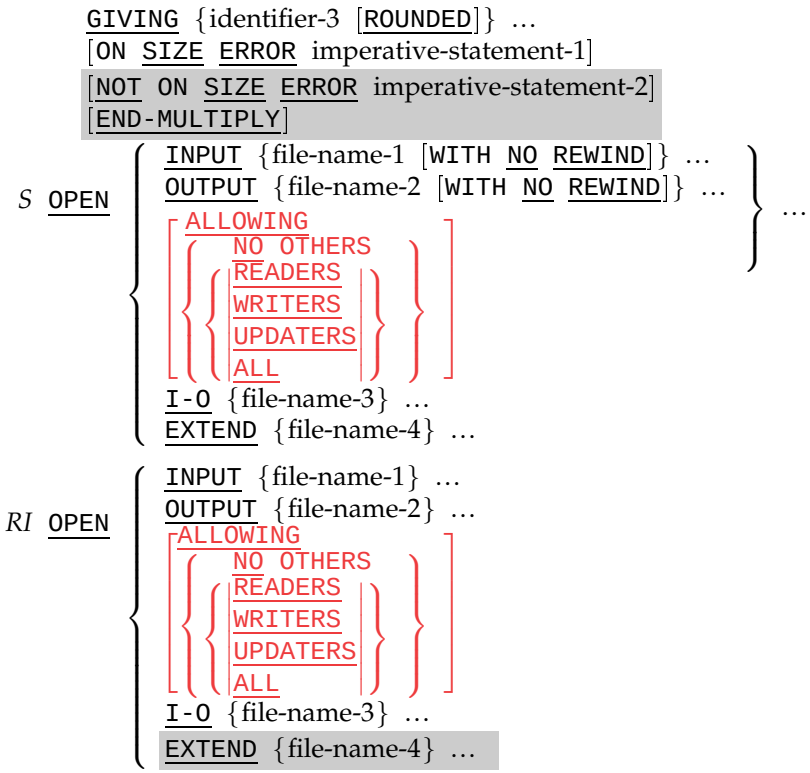

FIND database-record [FOR UPDATE]
RETAINING
REALM
RECORD
SET [set-name] ...
{set-name} ...
CURRENCY
[AT END stment] [NOT AT END stment2]
[ON ERROR stment] [NOT ON ERROR stment2]
[END-FIND]
FIND ALL keeplist-name [record-name] [WITHIN realm-name set-name]
USING {rec-key} ...
WHERE {bool-expres}
[FOR UPDATE]
[AT END stment] [NOT AT END stment2]
[ON ERROR stment] [NOT ON ERROR stment2]
[END-FIND]
FREE database-key-id
ALL
FROM {keeplist-name} ...
CURRENT
[ON ERROR stment]
[NOT ON ERROR stment2]
[END-FREE]

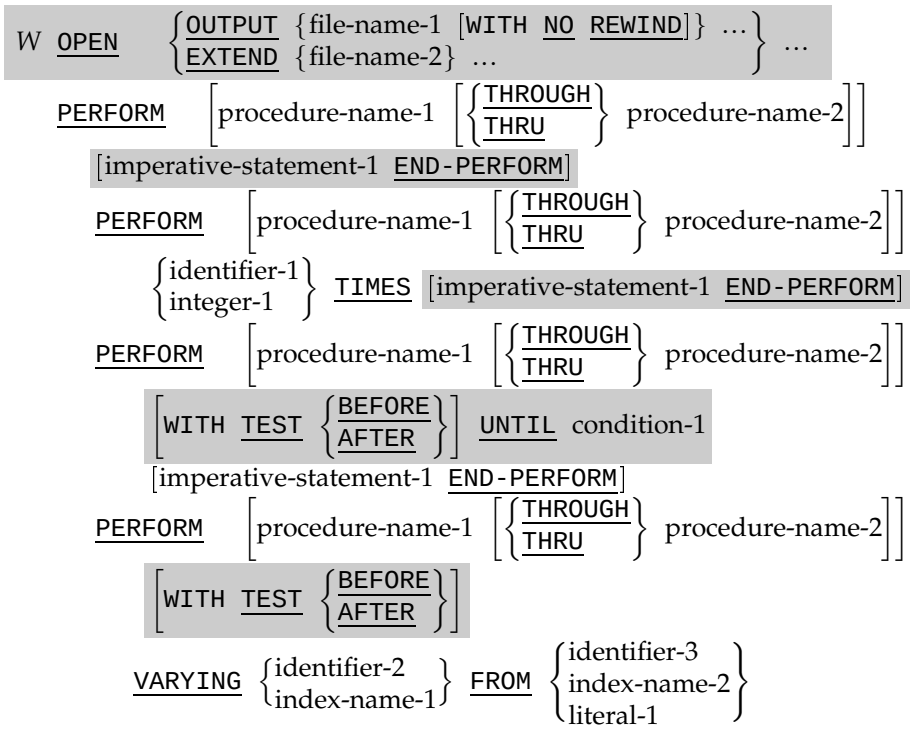
```
GENERATE {data-name-1 | report-name-1}

GET [record-name | {record-item} ...]
    [ON ERROR stment]
    [NOT ON ERROR stment2]
    [END-GET]

[GOBACK]

GO TO [procedure-name-1]

GO TO {procedure-name-1} ... DEPENDING ON identifier-1

IF condition-1 THEN { {statement-1} ... | NEXT SENTENCE } { ELSE {statement-2} ... [END-IF] | ELSE NEXT SENTENCE | END-IF }

INITIALIZE {identifier-1} ...
  [ REPLACING { { ALPHABETIC | ALPHANUMERIC | NUMERIC | ALPHANUMERIC-EDITED | NUMERIC-EDITED | BBCS | EGCS } DATA BY {identifier-2 | literal-1} } ... ]
```


INITIATE {report-name-1} …
INSPECT identifier-1 TALLYING
identifier-2 FOR
CHARACTERS
BEFORE
AFTER
INITIAL
identifier-4
literal-2
ALL
LEADING
identifier-3
literal-1
INSPECT identifier-1 REPLACING
CHARACTERS BY
identifier-5
literal-3
FIRST
BY
INSPECT identifier-1 TALLYING


REPLACING
CHARACTERS BY identifier-5 literal-3 [BEFORE AFTER] INITIAL identifier-4 literal-2 ...
ALL LEADING FIRST identifier-3 literal-1 BY identifier-5 literal-3 [BEFORE AFTER] INITIAL identifier-4 literal-2 ... ...
INSPECT identifier-1 CONVERTING identifier-6 literal-4 TO identifier-7 literal-5
[BEFORE AFTER] INITIAL identifier-4 literal-2 ...
KEEP [database-key-id] USING destination-keeplist
[ON ERROR imperative statement-1]
[NOT ON ERROR imperative statement-2]
[END-KEEP]
MERGE file-name-1 ON ASCENDING DESCENDING KEY {data-name-1} ... ...
[COLLATING SEQUENCE IS alphabet-name-1]
USING file-name-2 {file-name-3} ...
OUTPUT PROCEDURE IS procedure-name-1 [THROUGH THRU procedure-name-2]
GIVING {file-name-4} ...

```
MODIFY [record-name          ]
       [{record-item} ...    ]

    [RETAINING [{ | REALM                          | }] CURRENCY]
    [          [{ | RECORD                         | }]         ]
    [          [{ | {SET [set-name] ...}           | }]         ]
    [          [{ | {{set-name} ...    }           | }]         ]

  [ON ERROR stment]
  [NOT ON ERROR stment2]
  [END-MODIFY]

MOVE    {identifier-1} TO {identifier-2} ...
        {literal-1   }

MOVE    {CORRESPONDING} identifier-1 TO identifier-2
        {CORR         }

MULTIPLY {identifier-1} BY {identifier-2 [ROUNDED]} ...
         {literal-1   }

    [ON SIZE ERROR imperative-statement-1]
    [NOT ON SIZE ERROR imperative-statement-2]
    [END-MULTIPLY]

MULTIPLY {identifier-1} BY {identifier-2}
         {literal-1   }    {literal-2   }
```


GIVING {identifier-3 [ROUNDED]} …
[ON SIZE ERROR imperative-statement-1]
[NOT ON SIZE ERROR imperative-statement-2]
[END-MULTIPLY]
S OPEN
INPUT {file-name-1 [WITH NO REWIND]} …
OUTPUT {file-name-2 [WITH NO REWIND]} …
ALLOWING
NO OTHERS
READERS
WRITERS
UPDATERS
ALL
I-O {file-name-3} …
EXTEND {file-name-4} …
…
RI OPEN
INPUT {file-name-1} …
OUTPUT {file-name-2} …
ALLOWING
NO OTHERS
READERS
WRITERS
UPDATERS
ALL
I-O {file-name-3} …
EXTEND {file-name-4} …


W OPEN
OUTPUT {file-name-1 [WITH NO REWIND]} ...
EXTEND {file-name-2} ...
PERFORM
procedure-name-1
THROUGH
THRU
procedure-name-2
[imperative-statement-1 END-PERFORM]
PERFORM
procedure-name-1
THROUGH
THRU
procedure-name-2
identifier-1
integer-1
TIMES
[imperative-statement-1 END-PERFORM]
PERFORM
procedure-name-1
THROUGH
THRU
procedure-name-2
WITH TEST
BEFORE
AFTER
UNTIL condition-1
[imperative-statement-1 END-PERFORM]
PERFORM
procedure-name-1
THROUGH
THRU
procedure-name-2
WITH TEST
BEFORE
AFTER
VARYING
identifier-2
index-name-1
FROM
identifier-3
index-name-2
literal-1

```
        BY {identifier-4 | literal-2} UNTIL condition-1
[AFTER {identifier-5 | index-name-3} FROM {identifier-6 | index-name-4 | literal-3}
        BY {identifier-7 | literal-4} UNTIL condition-2] ...
[imperative-statement-1 END-PERFORM]

    PURGE cd-name-1
SRI READ file-name-1 [NEXT] RECORD [INTO identifier-1]
    [REGARDLESS OF LOCK
     ALLOWING {UPDATERS | READERS | NO OTHERS}]
    [AT END imperative-statement-1]
    [NOT AT END imperative-statement-2]
    [END-READ]
  R READ file-name-1 RECORD [INTO identifier-1]
```

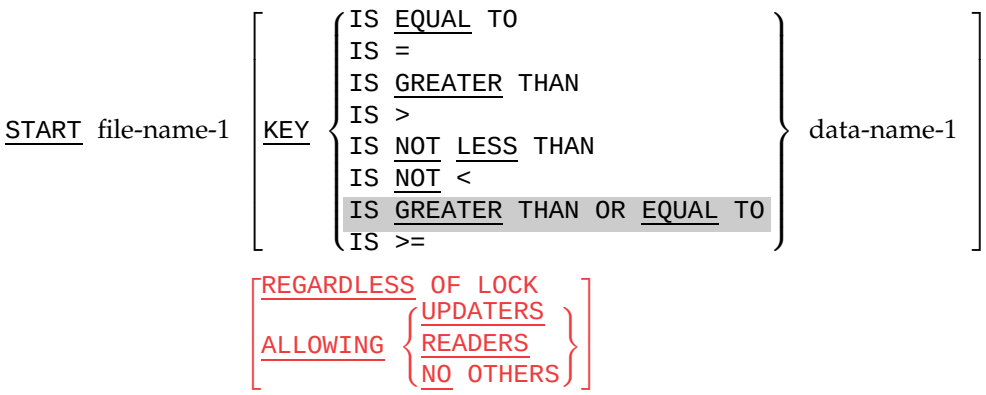
```
[ REGARDLESS OF LOCK                      ]
[           { UPDATERS  }                 ]
[ ALLOWING  { READERS   }                 ]
[           { NO OTHERS }                 ]
 [INVALID KEY imperative-statement-3]
 [NOT INVALID KEY imperative-statement-4]
 [END-READ]
I READ file-name-1 RECORD [INTO identifier-1]
 [KEY IS data-name-1]
 [INVALID KEY imperative-statement-3]
 [NOT INVALID KEY imperative-statement-4]
 [END-READ]
READY [realm-name] ...
 [                 { { CONCURRENT }  [ { RETRIEVAL } ]       } ]
 [                 { { EXCLUSIVE  }  [ { UPDATE    } ]       } ]
 [                 { { PROTECTED  }                          } ]
 [ USAGE-MODE IS   { { BATCH      }                          } ]
 [                 {                 [ { CONCURRENT } ]      } ]
 [                 { { RETRIEVAL }   [ { EXCLUSIVE  } ]      } ]
 [                 { { UPDATE    }   [ { PROTECTED  } ]      } ]
 [                 {                 [ { BATCH      } ]      } ]
[WITH WAIT]
[ON ERROR imperative statement-1]
[NOT ON ERROR imperative statement-2]
[END-READY]
```

```
RECEIVE cd-name-1 {MESSAGE|SEGMENT} INTO identifier-1
    [NO DATA imperative-statement-1]
    [WITH DATA imperative-statement-2]
    [END-RECEIVE]
RECONNECT [record-name] WITHIN {{set-name} ... | ALL}
    [RETAINING [{REALM | RECORD | {SET [set-name] ... | {set-name} ...}}] CURRENCY]
    [ON ERROR stment]
    [NOT ON ERROR stment2]
    [END-RECONNECT]
RELEASE record-name-1 [FROM identifier-1]
RETURN file-name-1 RECORD [INTO identifier-1]
    AT END imperative-statement-1
    [NOT AT END imperative-statement-2]
    [END-RETURN]
S  REWRITE record-name-1 [FROM identifier-1]
RI REWRITE record-name-1 [FROM identifier-1]
    [ALLOWING NO OTHERS]
    [INVALID KEY imperative-statement-1]
```

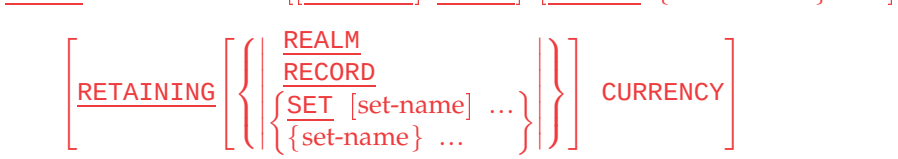
```
    [NOT INVALID KEY imperative-statement-2]
    [END-REWRITE]
ROLLBACK
    [ON ERROR stment]
    [NOT ON ERROR stment2]
    [END-ROLLBACK]
SEARCH identifier-1 [VARYING {identifier-2 }]
                     {index-name-1}
    [AT END imperative-statement-1]
    {WHEN condition-1 {imperative-statement-2}} ...
                      {NEXT SENTENCE        }
    [END-SEARCH]
SEARCH ALL identifier-1 [AT END imperative-statement-1]

    WHEN { data-name-1 {IS EQUAL TO} { identifier-3 }
         {             {IS =      } { literal-1    }
         { condition-name-1          { arithmetic-expression-1 }

        [ AND { data-name-2 {IS EQUAL TO} { identifier-4 } ] ...
              {             {IS =      } { literal-2    }
              { condition-name-2          { arithmetic-expression-2 } ]
```

```
    { imperative-statement-2 | NEXT SENTENCE }
  [END-SEARCH]

SEND cd-name-1 FROM identifier-1

SEND cd-name-1 [FROM identifier-1] { WITH identifier-2 | WITH ESI | WITH EMI | WITH EGI }

    [ { BEFORE | AFTER } ADVANCING { { identifier-3 | integer-1 } [ LINE | LINES ] | { mnemonic-name-1 | PAGE } } ]

  [REPLACING LINE]

SET { index-name-1 | identifier-1 } ... TO { index-name-2 | identifier-2 | integer-1 }

SET {index-name-3} ... { UP BY | DOWN BY } { identifier-3 | integer-2 }

SET { {mnemonic-name-1} ... TO { ON | OFF } } ...
```

```
SET  {condition-name-1} ... TO TRUE
SET pointer-id TO REFERENCE OF identifier
SET status-code-id TO { SUCCESS }
                      { FAILURE }

SET { identifier                } TO { identifier                }
    { ADDRESS OF identifier     }    { ADDRESS OF identifier     }
                                     { NULL                     }
                                     { NULLS                    }

SORT file-name-1 { ON { ASCENDING  } KEY {data-name-1} ... } ...
                     { DESCENDING }

    [WITH DUPLICATES IN ORDER]
    [COLLATING SEQUENCE IS alphabet-name-1]
      { INPUT PROCEDURE IS procedure-name-1 [ { THROUGH } procedure-name-2 ] }
      { USING {file-name-2} ...             [ { THRU    }                 ] }

      { OUTPUT PROCEDURE IS procedure-name-3 [ { THROUGH } procedure-name-4 ] }
      { GIVING {file-name-3} ...             [ { THRU    }                  ] }
```


START file-name-1
KEY
IS EQUAL TO
IS =
IS GREATER THAN
IS >
IS NOT LESS THAN
IS NOT <
IS GREATER THAN OR EQUAL TO
IS >=
data-name-1
REGARDLESS OF LOCK
ALLOWING
UPDATERS
READERS
NO OTHERS
[INVALID KEY imperative-statement-1]
[NOT INVALID KEY imperative-statement-2]
[END-START]

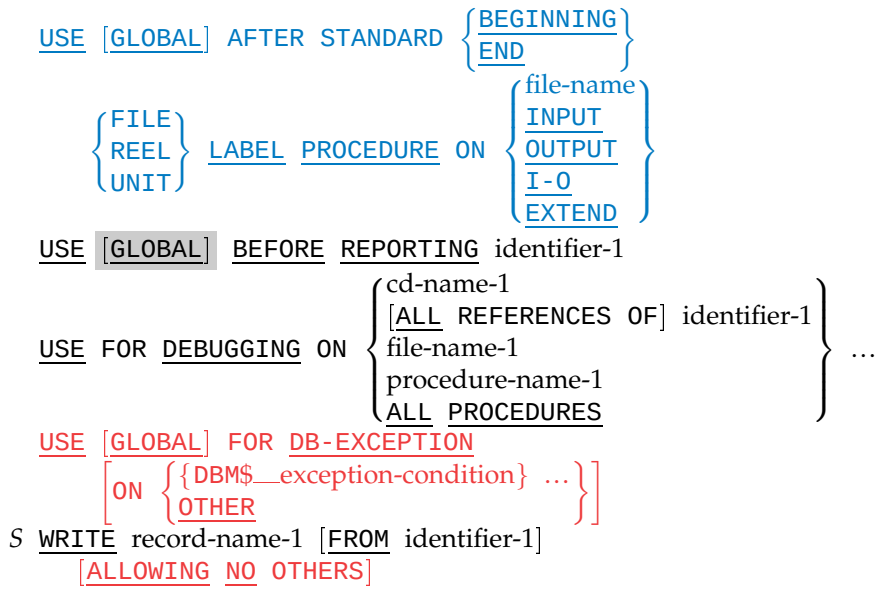
STOP
RUN
literal-1


STORE record-name [[NEXT TO] DBKEY] [WITHIN {realm-name} ...]
RETAINING
REALM
RECORD
SET [set-name] ...
{set-name} ...
CURRENCY

[ON ERROR stment]
[NOT ON ERROR stment2]
[END-STORE]

```
STRING { identifier-1 } ... DELIMITED BY { identifier-2 }
       { literal-1   }                   { literal-2   }
                                         { SIZE        } ...
    INTO identifier-3
    [WITH POINTER identifier-4]
    [ON OVERFLOW imperative-statement-1]
    [NOT ON OVERFLOW imperative-statement-2]
    [END-STRING]

SUBTRACT { identifier-1 } ... FROM {identifier-3 [ROUNDED]} ...
         { literal-1   }
    [ON SIZE ERROR imperative-statement-1]
    [NOT ON SIZE ERROR imperative-statement-2]
    [END-SUBTRACT]

SUBTRACT { identifier-1 } ... FROM { identifier-2 }
         { literal-1   }           { literal-2   }
    GIVING {identifier-3 [ROUNDED]} ...
    [ON SIZE ERROR imperative-statement-1]
    [NOT ON SIZE ERROR imperative-statement-2]
    [END-SUBTRACT]
```

```
SUBTRACT {CORRESPONDING} identifier-1 FROM identifier-2 [ROUNDED]
         {CORR       }
    [ON SIZE ERROR imperative-statement-1]
    [NOT ON SIZE ERROR imperative-statement-2]
    [END-SUBTRACT]
SUPPRESS PRINTING
TERMINATE {report-name-1} ...
UNLOCK file-name [RECORD     ]
                 [ALL RECORDS]
UNSTRING identifier-1
    [DELIMITED BY [ALL] {identifier-2} [OR [ALL] {identifier-3}] ... ]
                        {literal-1   }          {literal-2   }
    INTO {identifier-4 [DELIMITER IN identifier-5] [COUNT IN identifier-6]} ...
    [WITH POINTER identifier-7]
    [TALLYING IN identifier-8]
    [ON OVERFLOW imperative-statement-1]
    [NOT ON OVERFLOW imperative-statement-2]
    [END-UNSTRING]

USE [GLOBAL] AFTER STANDARD {EXCEPTION} PROCEDURE ON {{file-name-1} ... }
                            {ERROR    }            {INPUT            }
                                                   {OUTPUT           }
                                                   {I-O              }
                                                   {EXTEND           }
```


USE [GLOBAL] AFTER STANDARD {BEGINNING / END}
{FILE / REEL / UNIT} LABEL PROCEDURE ON {file-name / INPUT / OUTPUT / I-O / EXTEND}
USE [GLOBAL] BEFORE REPORTING identifier-1
USE FOR DEBUGGING ON {cd-name-1 / [ALL REFERENCES OF] identifier-1 / file-name-1 / procedure-name-1 / ALL PROCEDURES} ...
USE [GLOBAL] FOR DB-EXCEPTION
[ON {{DBM$__exception-condition} ... / OTHER}]
S WRITE record-name-1 [FROM identifier-1]
[ALLOWING NO OTHERS]

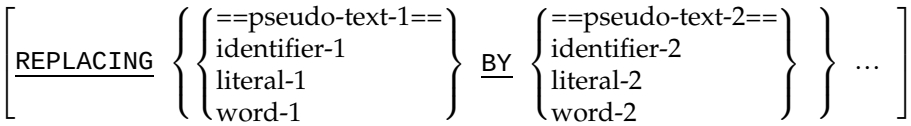
```
[ { BEFORE } ADVANCING { { identifier-2 } [ LINE  ] } ]
[ { AFTER  }           { { integer-1    } [ LINES ] } ]
[                      { { mnemonic-name-1 }        } ]
[                      { { PAGE            }        } ]
[AT { END-OF-PAGE } imperative-statement-1]
[   { EOP         }                       ]
[NOT AT { END-OF-PAGE } imperative-statement-2]
[       { EOP         }                       ]
[END-WRITE]
```

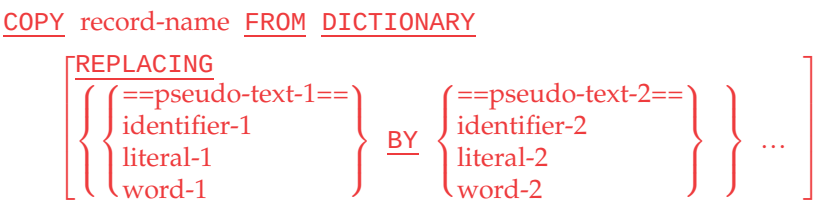
RI `WRITE record-name-1 [FROM identifier-1]`

```
    [ALLOWING NO OTHERS]
    [INVALID KEY imperative-statement-1]
    [NOT INVALID KEY imperative-statement-2]
    [END-WRITE]
```

General Format for Copy and Replace Statements

```
COPY text-name-1 [ { OF } library-name-1 ]
                 [ { IN }                ]
```

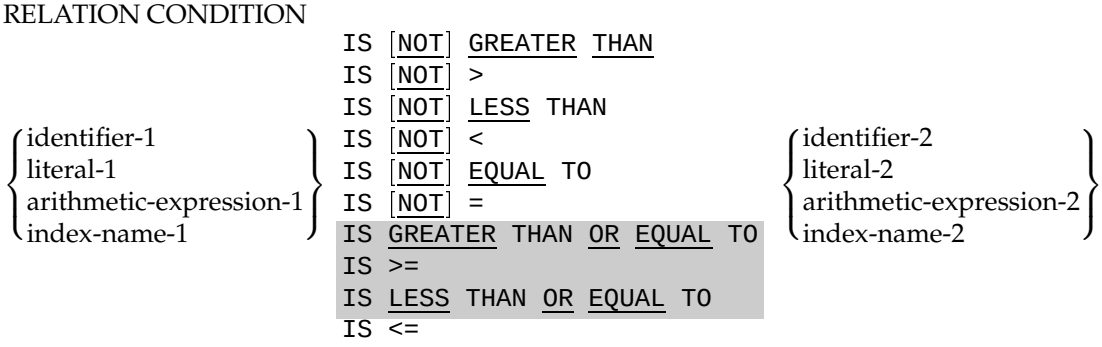




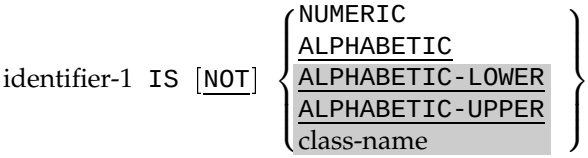

```
REPLACE {==pseudo-text-1== BY ==pseudo-text-2==} ...
REPLACE OFF
```

General Format for Conditions

RELATION CONDITION



CLASS CONDITION



CONDITION-NAME CONDITION

condition-name-1

CURRENCY INDICATOR ACCESS

```
CURRENT [ WITHIN { record-name }
                 { set-name   }
                 { realm-name } ]
```

KEEPLIST ACCESS

```
{ OFFSET integer-exp } WITHIN keeplist-name
{ FIRST              }
{ LAST               }
```

SWITCH-STATUS CONDITION

condition-name-1

SIGN CONDITION

```
arithmetic-expression-1 IS [NOT] { POSITIVE }
                                 { NEGATIVE }
                                 { ZERO     }
```

TENANCY CONDITION

```
[NOT] [set-name] { OWNER  }
                 { MEMBER }
                 { TENANT }
```

DATABASE KEY CONDITION

```
database-key IS [NOT] { ALSO database-key }
                      { NULL              }
                      { WITHIN keeplist-name }
```

SUCCESS/FAILURE CONDITION

status-code-id IS { SUCCESS / FAILURE }

NEGATED CONDITION

NOT condition-1

COMBINED CONDITION

condition-1 { { AND / OR } condition-2 } ...

ABBREVIATED COMBINED RELATION CONDITION

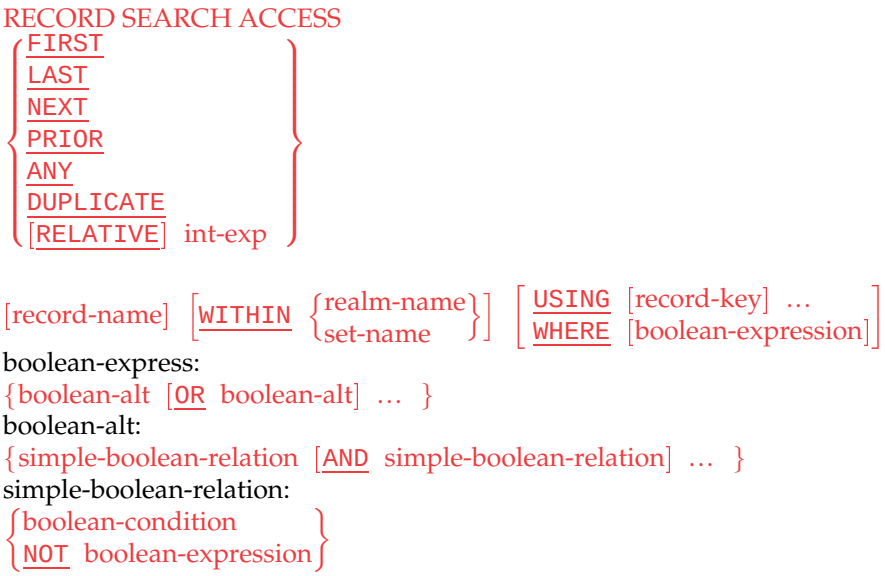
relation-condition { { AND / OR } [NOT] [relational-operator] object } ...

DATABASE KEY IDENTIFIER ACCESS

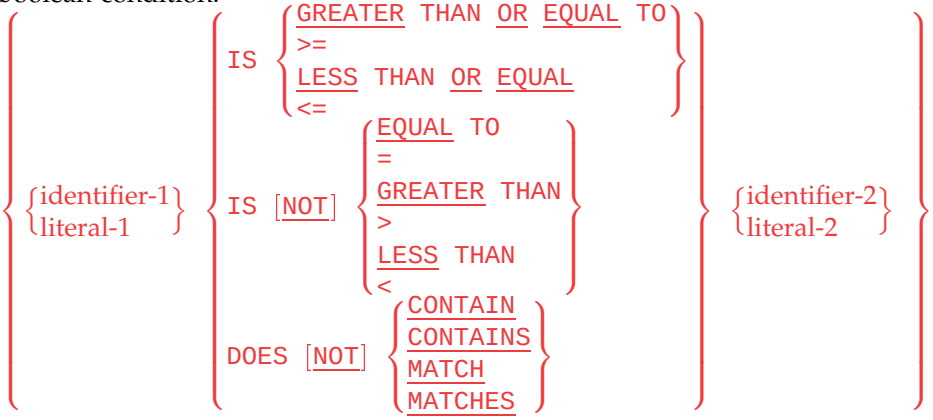
database-key-identifier

DATABASE SET OWNER ACCESS

OWNER WITHIN set-name


RECORD SEARCH ACCESS
FIRST
LAST
NEXT
PRIOR
ANY
DUPLICATE
[RELATIVE] int-exp
[record-name] [WITHIN realm-name / set-name] [USING [record-key] ... / WHERE [boolean-expression]]
boolean-express:
{boolean-alt [OR boolean-alt] ... }
boolean-alt:
{simple-boolean-relation [AND simple-boolean-relation] ... }
simple-boolean-relation:
boolean-condition
NOT boolean-expression

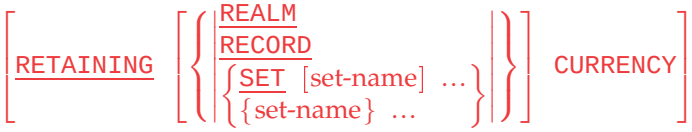
boolean-condition:



DATABASE ON ERROR CONDITION

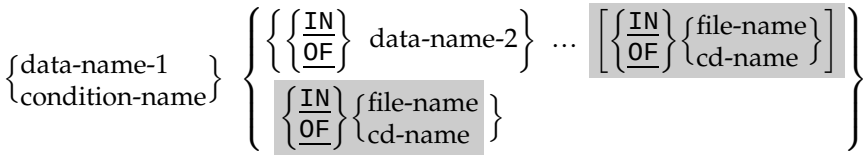
[NOT] ON ERROR imperative statement

RETAINING CLAUSE



Qualification

FORMAT 1



FORMAT 2

paragraph-name {IN / OF} section-name

FORMAT 3

text-name {IN / OF} library-name

FORMAT 4

```
LINAGE-COUNTER { IN | OF } report-name
```

FORMAT 5

```
{ PAGE-COUNTER } { IN } report-name
{ LINE-COUNTER } { OF }
```

FORMAT 6

```
            { { IN } data-name-4 [ { IN } report-name ] }
data-name-3 { { OF }               [ { OF }             ] }
            { { IN } report-name                          }
            { { OF }                                      }
```

Miscellaneous Formats

SUBSCRIPTING

```
                     { integer-1                        }
{ condition-name-1 } ( { data-name-2 [{±} integer-2]    } ... )
{ data-name-1      }   { index-name-2 [{±} integer-3]   }
                     { arithmetic-expression            }
```

REFERENCE MODIFICATION

```
data-name-1  (leftmost-character-position:[length])
```

IDENTIFIER

```
data-name-1 [{IN}  data-name-2] ... [{IN}  {cd-name      }]
            [{OF}                  {file-name    }]
                                   {report-name  }
   [({subscript} ... )] [(leftmost-character-position: [length])]
```

General Format for Nested Source Programs

```
IDENTIFICATION DIVISION.
PROGRAM-ID. program-name-1 [IS INITIAL PROGRAM].
[ENVIRONMENT DIVISION. environment-division-content]
[DATA DIVISION. data-division-content]
[PROCEDURE DIVISION. procedure-division-content]
[[nested-source-program] ...
END PROGRAM program-name-1.]
```

General Format for Nested-Source-Program

```
IDENTIFICATION DIVISION.
 PROGRAM-ID. program-name-2 [IS{COMMON|INITIAL} PROGRAM].
[ENVIRONMENT DIVISION. environment-division-content]
[DATA DIVISION. data-division-content]
[PROCEDURE DIVISION. procedure-division-content]
[nested-source-program] …
 END PROGRAM program-name-2.
```

General Format for a Sequence of Source Programs

```
{IDENTIFICATION DIVISION.
 PROGRAM-ID. program-name-3 [IS INITIAL PROGRAM].
[ENVIRONMENT DIVISION. environment-division-content]
[DATA DIVISION. data-division-content]
[PROCEDURE DIVISION. procedure-division-content]
[nested-source-program] …
 END PROGRAM program-name-3.} …
 IDENTIFICATION DIVISION.
 PROGRAM-ID. program-name-4 [IS INITIAL PROGRAM].
[ENVIRONMENT DIVISION. environment-division-content]
```

[DATA DIVISION. data-division-content]
[PROCEDURE DIVISION. procedure-division-content]
[[nested-source-program] …
END PROGRAM program-name-4.]

IV. FUNCTION NAMES AVAILABLE IN EXTENSIONS TO COBOL 85

ABS	INTEGER	ORD
ACOS	INTEGER-OF-DATE	ORD-MAX
ANNUITY	INTEGER-OF-DAY	ORD-MIN
ASIN	INTEGER-PART	PI
ATAN	LENGTH	PRESENT-VALUE
CHAR	LENGTH-AN	RANDOM
CHAR-NATIONAL	LOG	RANGE
COS	LOG10	REM
CURRENT-DATE	LOWER-CASE	REVERSE
DATE-OF-INTEGER	MAX	SIGN
DAY-OF-INTEGER	MEAN	SIN
DISPLAY-OF	MEDIAN	SQRT
EXCEPTION-FILE	MIDRANGE	STANDARD-DEVIATION
EXCEPTION-LOCATION	MIN	SUM
EXCEPTION-STATEMENT	MOD	TAN
EXCEPTION-STATUS	NATIONAL-OF	UPPER-CASE
EXP	NUMVAL	VARIANCE
FACTORIAL	NUMVAL-C	WHEN-COMPILED
FRACTION-PART		

V. NEW COBOL 9X RESERVED WORDS

ALIGN
B-AND
B-NOT
B-OR
B-XOR
CLASS-ID
CONFORMING
END-INVOKE
EXCEPTION-OBJECT
FACTORY
FUNCTION
INHERITS
INTERFACE
INTERFACE-ID
INVARIANT
INVOKE
METHOD
METHOD-ID
NATIONAL
NATIONAL-EDITED
OBJECT
OVERRIDE
PROPERTY
RAISE
REPOSITORY
RESERVED
RETURNING
REUSES
SELF
SUPER
SYSTEM-OBJECT
UNIVERSAL