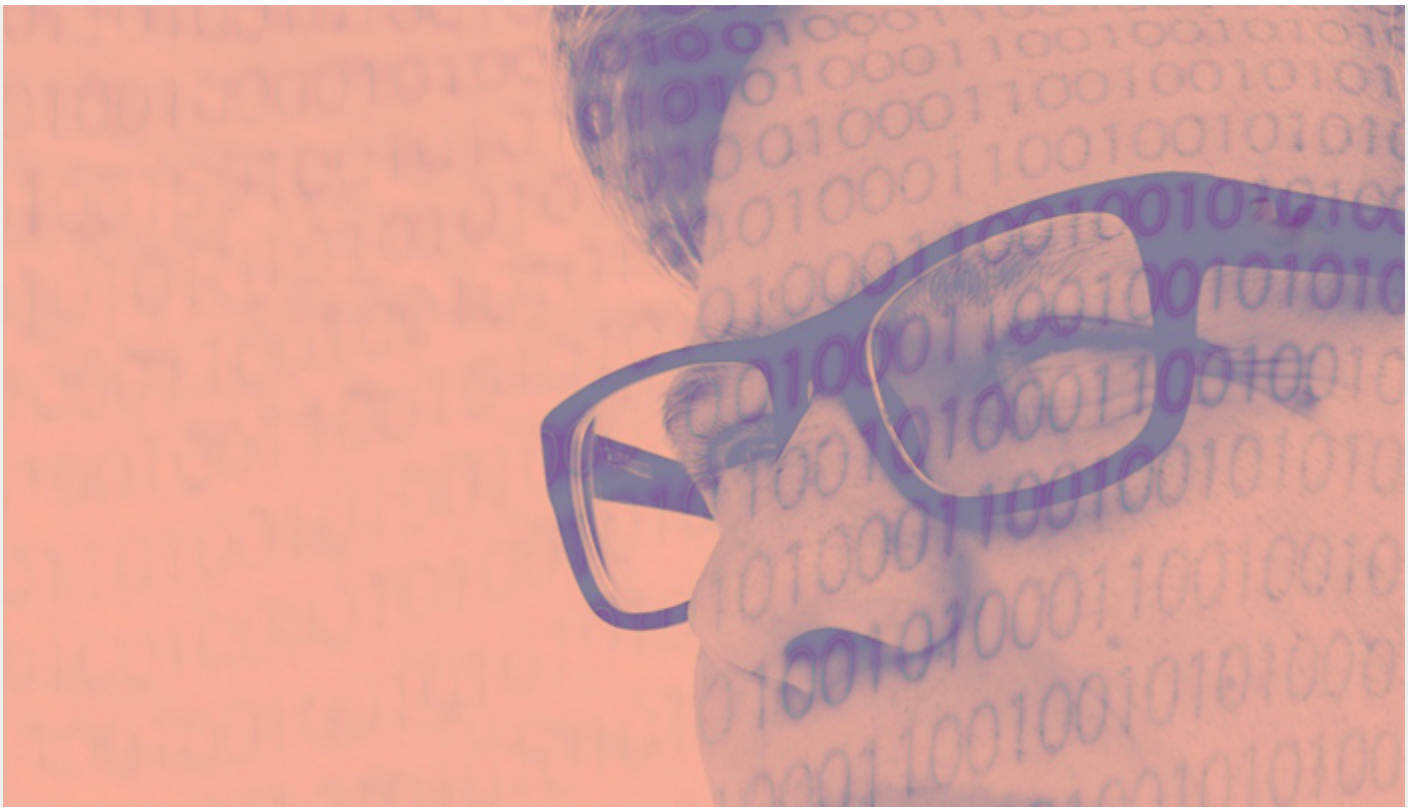
IBM UTILITIES IN DB2 12

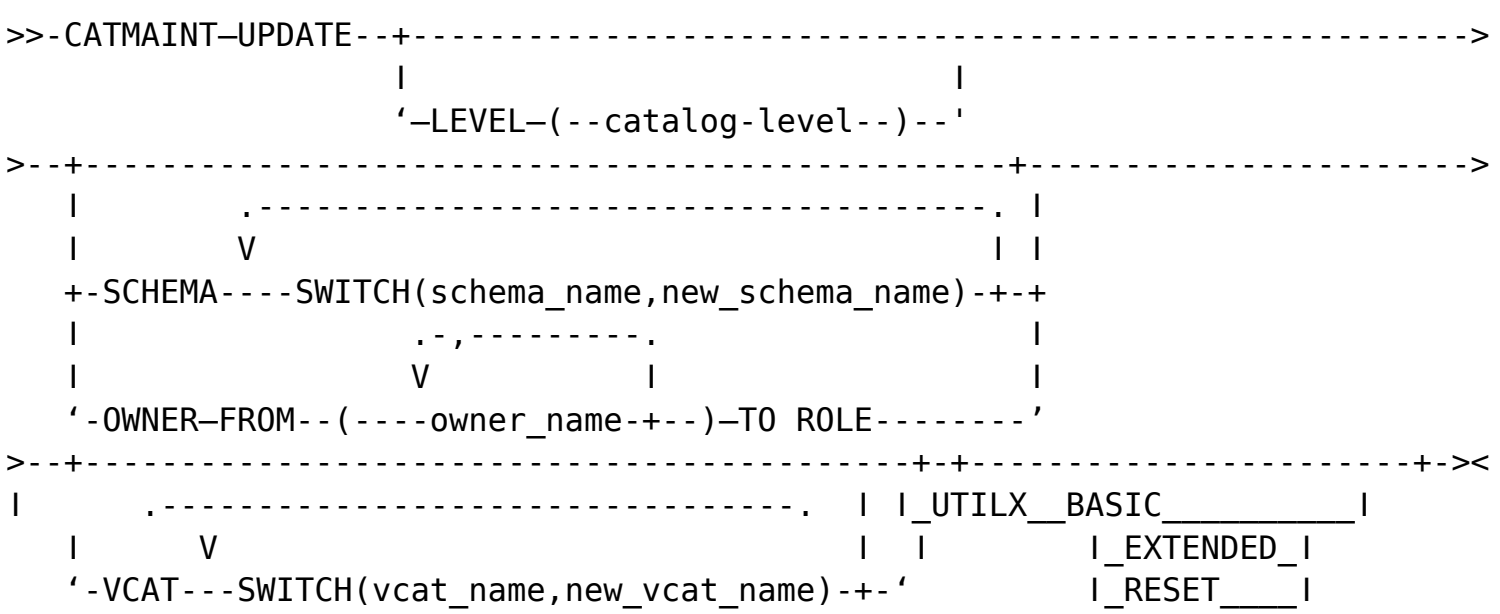


(This article is part of our Db2 Guide. Use the right-hand menu to navigate.)

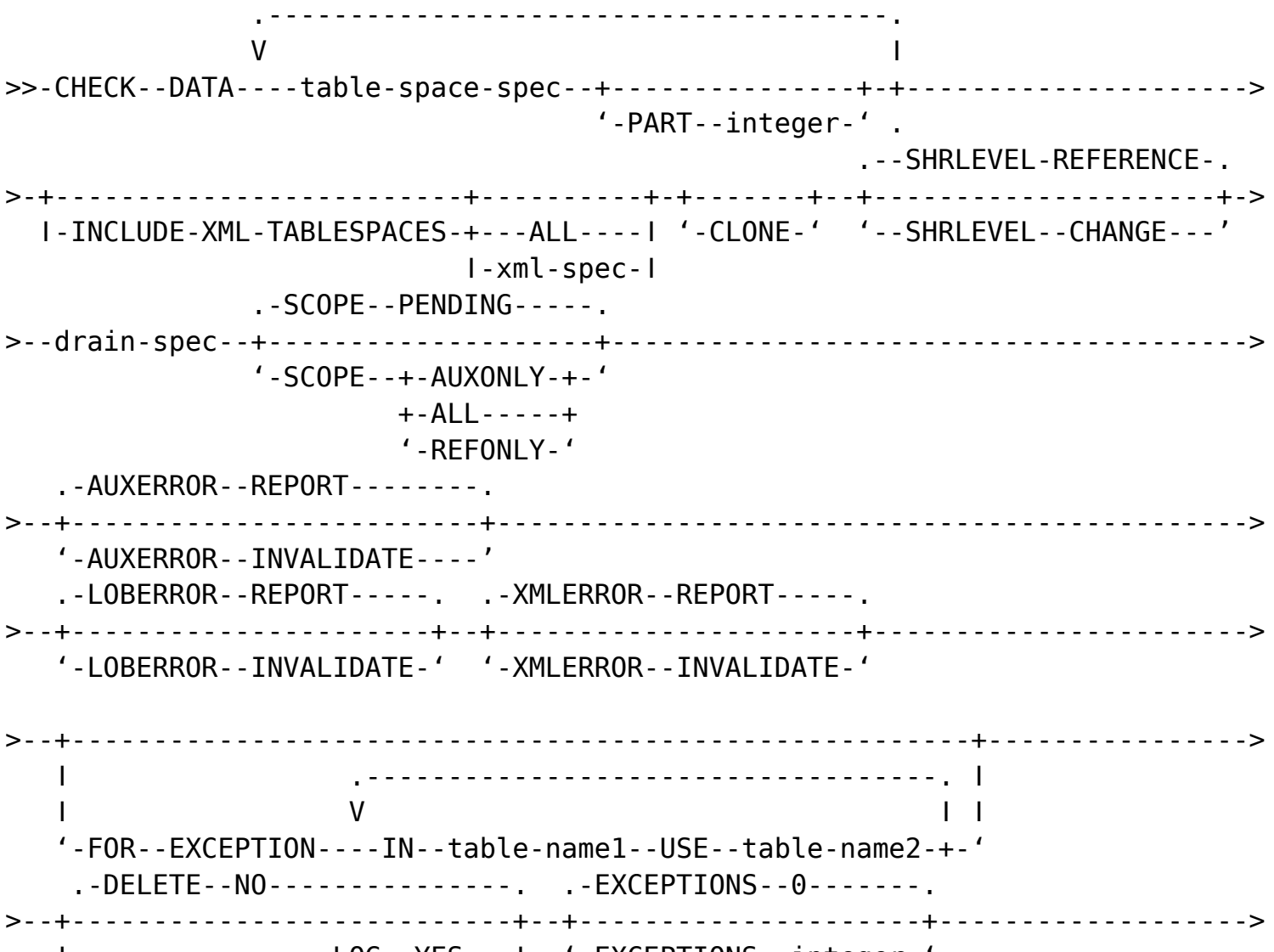
BACKUP SYSTEM

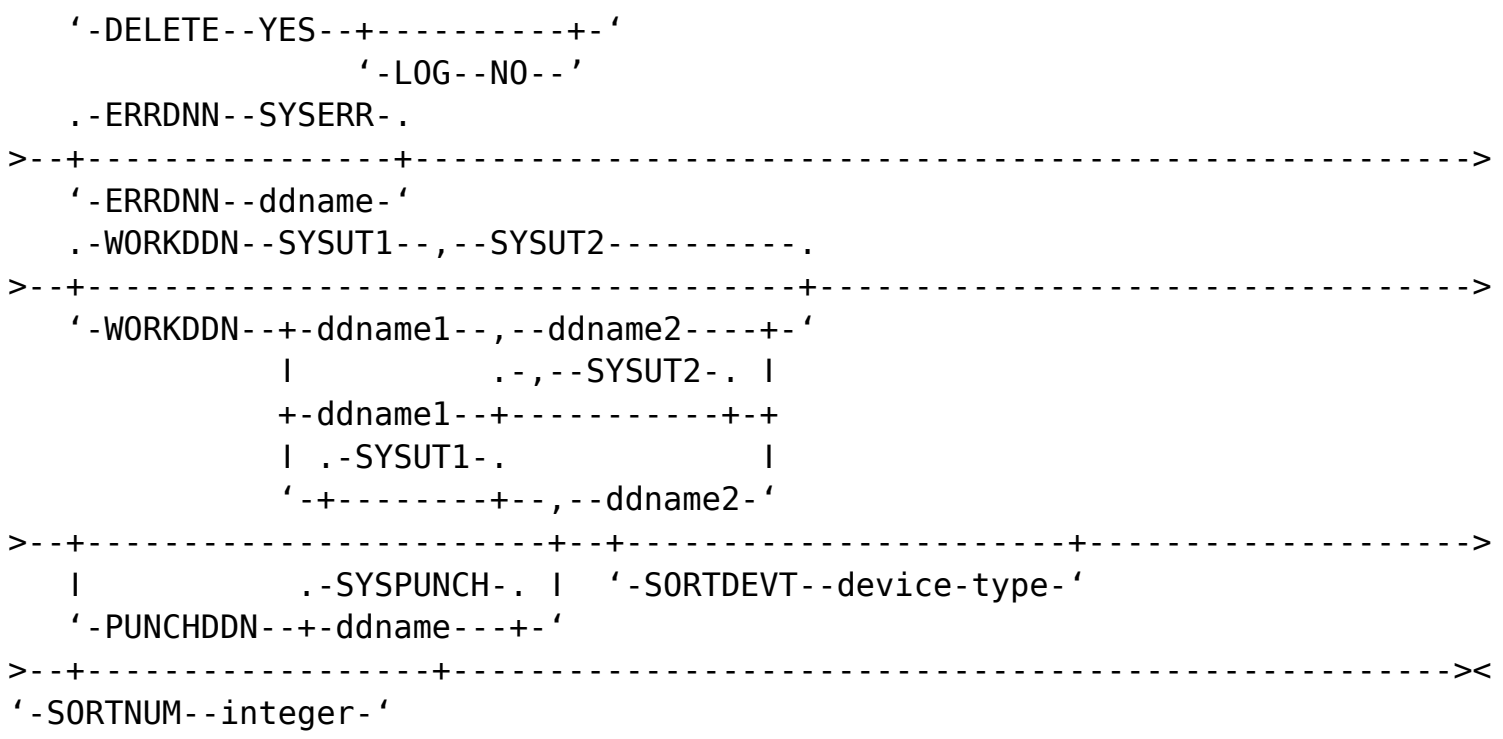
```
                    .-FULL-----.
>>-BACKUP SYSTEM--+-----------+--+-----------------------+-----------------><
                  '-DATA ONLY-'  +-ESTABLISH INCREMENTAL-+
                                 '-END INCREMENTAL-------'

>--+-------------------------------------------------------------------------+-->
   +--ALTERNATE_CP (copy-pool)--+-----------------+--+---------------+--+
                                '-DBBSG(stogroup)-'  '-LGBSG(stogroup-'
>--+-------------------------------------------------------+-----------><
+--FORCE-----------------------------------------------+ +--DUMP--+-----
-------------+--+------+------------------+ I '- dumpclass-spec---+ '-
FORCE-' I '-DUMPONLY--+------------------------+-+-----------------+' '-
TOKEN- (X'byte-string')' '- dumpclass-spec -' dumpclass-spec: >--DUMPCLASS-(-
-dc1---)-------------------------------------------------><  I-dc2-I
             I-dc3-I
             I-dc4-I
             I-dc5-I
```

CATMAINT

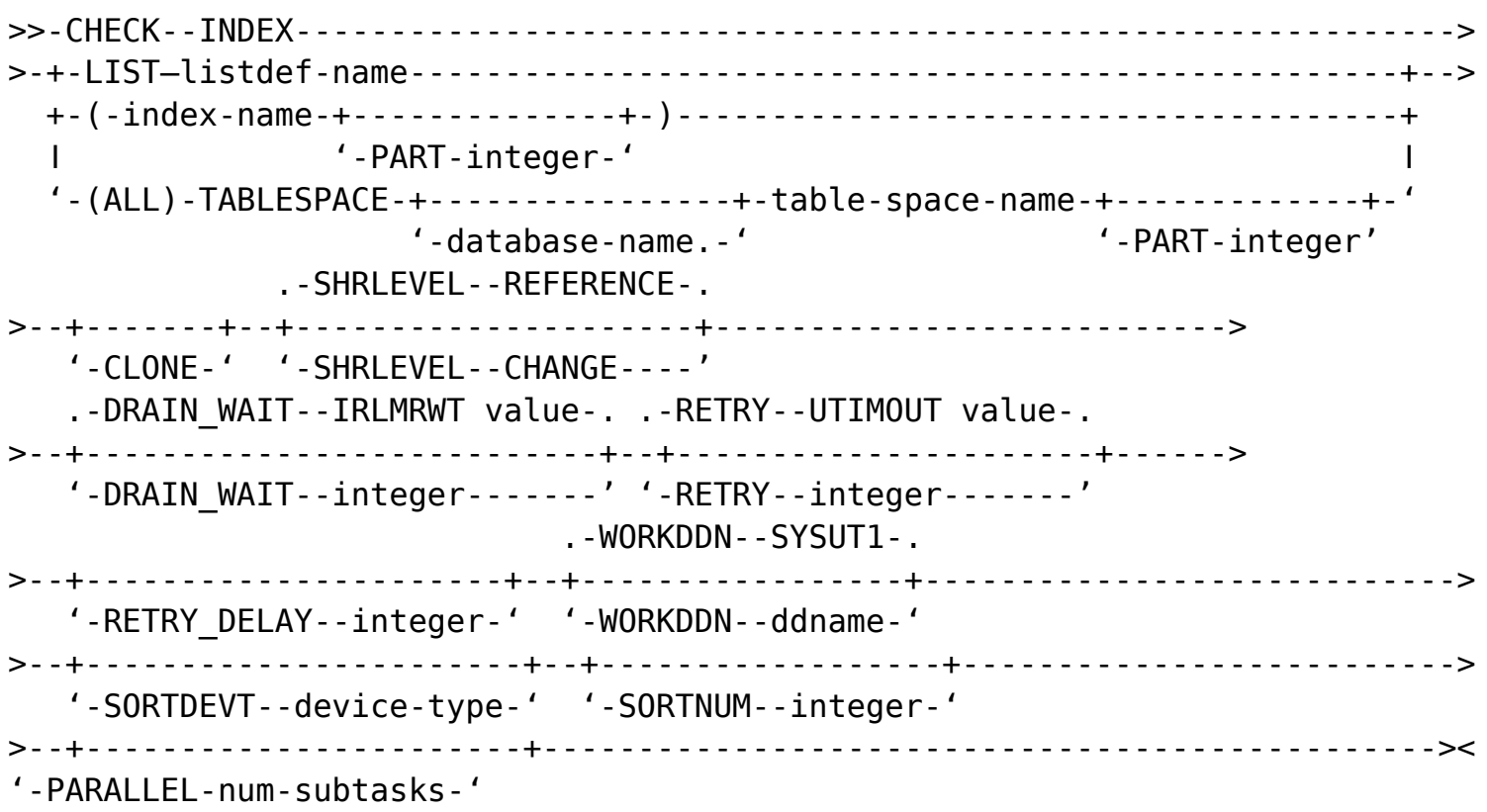


CHECK DATA

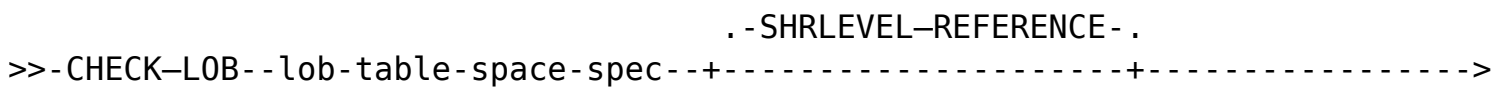




CHECK INDEX



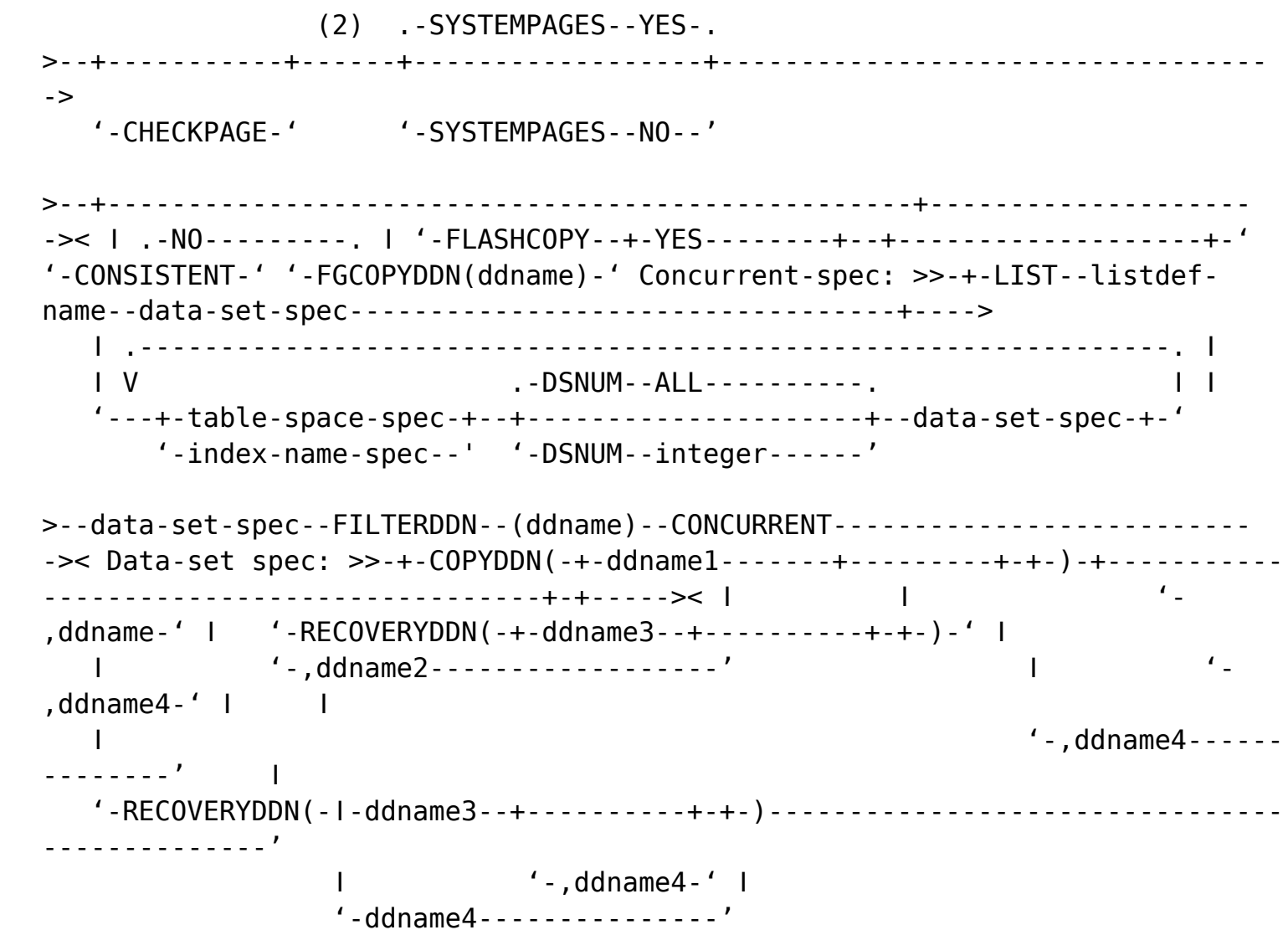
CHECK LOB



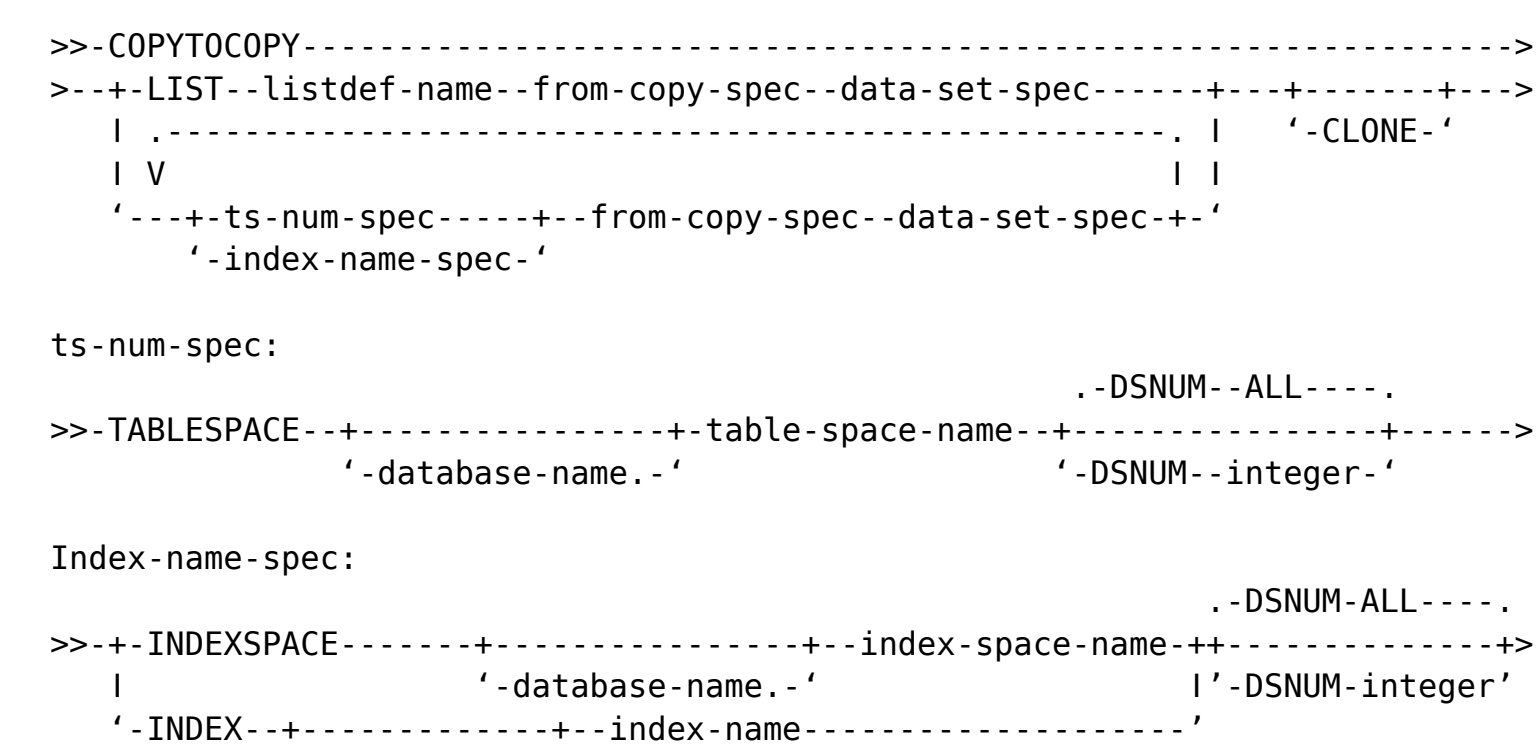
```
                                    '-SHRLEVEL--CHANGE----'
               .-EXCEPTIONS--0-------.
>--drain-spec--+--------------------+------------------------------------>
               '-EXCEPTIONS--integer-'
>--+-----------------------+--+----------------------+------------------->
   |           .-SYSPUNCH-. |  '-SORTDEVT--device-type-'
   '-PUNCHDDN--+-ddname---+-'
>--+-----------------+-------------------------------------------------->
   '-SORTNUM--integer-'

Lob-table-space-spec:
>-TABLESPACE-+---------------+-lob-table-space-name--+-------+------------->
             '-database-name-'                       '-CLONE-'



drain-spec:
   .-DRAIN_WAIT--IRLMRWT value-. .-RETRY--UTIMOUT value-.
>--+--------------------------+--+---------------------++-----------------
+>
   '-DRAIN_WAIT--integer-------' '-RETRY--integer-------' '-RETRY_DELAY-int-'
```

COPY

```
                                          .-FULL--YES-----------.
>>-+-LIST--listdef-name--| data-set-spec |--+------------------+------------
------------------+-----><
   |                                        +-FULL--NO---------+
|
   |                                        '-| changelimit-spec |-'
|
   | .-------------------------------------------------------------------
------------------+|
   | V                       .-FULL--YES------------.  .DSNUM--ALL----------.
|
   '---+-table-space-spec-+--+---------------------+--+------------------
+--data-set-spec-+-'
       '-index-name-spec-'   +-FULL--NO-------------+  |                   |
                             '-| changelimit-spec |-'  '-DSNUM--integer-----'

>--+-------------------------------------------------------------+-------
->
   '-PARALLEL-+--------------+-+---------------------------------+-'
              '-(num-objects)-' '-TAPEUNITS--(--num-tape-units--)-'
```


(2) .-SYSTEMPAGES--YES-.
>--+----------+------+-----------------+-------------------------------
->
'-CHECKPAGE-' '-SYSTEMPAGES--NO--'
>--+---+-------------------
-><| .-NO---------. | '-FLASHCOPY--+-YES--------+--+-------------------+-'
'-CONSISTENT-' '-FGCOPYDDN(ddname)-' Concurrent-spec: >>-+-LIST--listdef-
name--data-set-spec-----------------------------------+---->
| .---. |
| V .-DSNUM--ALL----------. | |
'---+-table-space-spec-+--+--------------------+--data-set-spec-+-'
'-index-name-spec--' '-DSNUM--integer------'
>--data-set-spec--FILTERDDN--(ddname)--CONCURRENT------------------------
-><| Data-set spec: >>-+-COPYDDN(-+-ddname1-------+---------+-+-)-+-----------
-------------------------------+-+-----><| | '-
,ddname-' | '-RECOVERYDDN(-+-ddname3--+----------+-+-)-' |
| '-,ddname2-----------------' | '-
,ddname4-' | |
| '-,ddname4------
--------' |
'-RECOVERYDDN(-|-ddname3--+----------+-+-)-------------------------------
--------------'
| '-,ddname4-' |
'-ddname4--------------'

COPYTOCOPY


>>-COPYTOCOPY-->
>--+-LIST--listdef-name--from-copy-spec--data-set-spec------+---+-------+--->
| .---. | '-CLONE-'
| V | |
'---+-ts-num-spec-----+--from-copy-spec--data-set-spec-+-'
'-index-name-spec-'
ts-num-spec:
.-DSNUM--ALL----.
>>-TABLESPACE--+---------------+-table-space-name--+---------------+------>
'-database-name.-' '-DSNUM--integer-'
Index-name-spec:
.-DSNUM-ALL----.
>>-+-INDEXSPACE-------+---------------+--index-space-name-++--------------+>
| '-database-name.-' |'-DSNUM-integer'
'-INDEX--+------------+--index-name-------------------'

```
            '-creator-id.-'



From-copy-spec:
   .-FROMLASTCOPY-------------------------------------------------------.
>>-+-----------------------------------------------------------------+----><
+-FROMLASTFULLCOPY-----------------------------------------------+ +-
FROMLASTINCRCOPY-------------------------------------------------+ +-
FROMLASTFLASHCOPY------------------------------------------------+ '-
FROMCOPY-------dsn--+-------------------------------------------+-' '-
FROMVOLUME--+-CATALOG-----------------+-' '-volser--+-------------+-' '-
FROMSEQNO--n-' Data-set-spec >>-+-COPYDDN(-+-ddname1-------+---------+-+-)-+-
-----------------------------------------+-+-----><  |          |
'-,ddname-' |   '-RECOVERYDDN(-+-ddname3--+----------+-+-)-' |
   |          '-,ddname2-----------------'                  |          '-
,ddname4-' |     |
   |                                                        '-,ddname4------
--------'     |
   '-RECOVERYDDN(-|-ddname3--+----------+-+-)-------------------------------
--------------'
                  |           '-,ddname4-' |
                  '-ddname4---------------'
```

DIAGNOSE

```
>>-DIAGNOSE--+-diagnose statement-+-----------------------------------------
-><  '-END----------------' Diagnose-statement: >>-+--------------------+----
-------------------------------------------------->
   | .-,-------.         |
   | V         |         |
   '-TYPE(---integer-+-)-'
>--+-----------------------------------+-----------------------------------
->
   '-ALLDUMPS-+----------------------+-'
              | .-,-------------.     |
              | V               |     |
              '-(---X'abend-code'-+-)-'
>--+-----------------------------------+-----------------------------------
->
   '-NODUMPS-+----------------------+-'
             | .-,-------------.     |
             | V               |     |
             '-(---X'abend-code'-+-)-'
>--+------------------+--+---------------+--+----------------+----------
-><  '-display statement-'  '-wait statement-'  '-abend statement-'  Display-
```

```
statement: >>-DISPLAY-----------------------------------------------------
----------->
>--+-OBD-+-----------------+-table-space-name-+---------+-+-------+---+---
-><  I ‘-database-name--.-‘ +-ALL-----+ ‘-CLONE-‘ I I +-TABLES--+ I I ‘-
INDEXES-‘ I +-SYSUTIL-------------------------------------------------------
---+ +-MEPL-------------------------------------------------------------+ +-
AVAILABLE-----------------------------------------------------+ ‘-DBET-+-
DATABASE--database-name-----------------------+-+-------+-‘ +-TABLESPACE-+--
-------------+-table-space-name-+ ‘-CLONE-‘ I ‘-database-name.-‘ I ‘-INDEX--
index-name-----------------------------’ Wait-statement: .------------------
--------------------------------. V I >>-WAIT----+-MESSAGE--message-id--+---
---------------+------+-+------------><  I ‘-INSTANCE--integer-‘ I ‘-
TRACEID--+-X’trace-id’-+--+------------------+-‘ ‘-integer-----’ ‘-INSTANCE-
-integer-‘ Abend-statement: >>-ABEND--+-MESSAGE--message-id--+--------------
----+------+--+--------+----><  I                      ‘-INSTANCE--integer-‘
I  ‘-NODUMP-‘
          ‘-TRACEID--+-X’trace-id’-+--+------------------+-‘
                     ‘-integer-----’  ‘-INSTANCE--integer-‘
```

EXEC SQL

```
>>-EXEC--SQL--+-declare-cursor-spec--------------+--ENDEXEC---------------
-><  ‘-non-select dynamic SQL statement-‘ Declare-cursor-spec: >>-DECLARE--
cursor-name--CURSOR--FOR--select-statement---------------------><
```

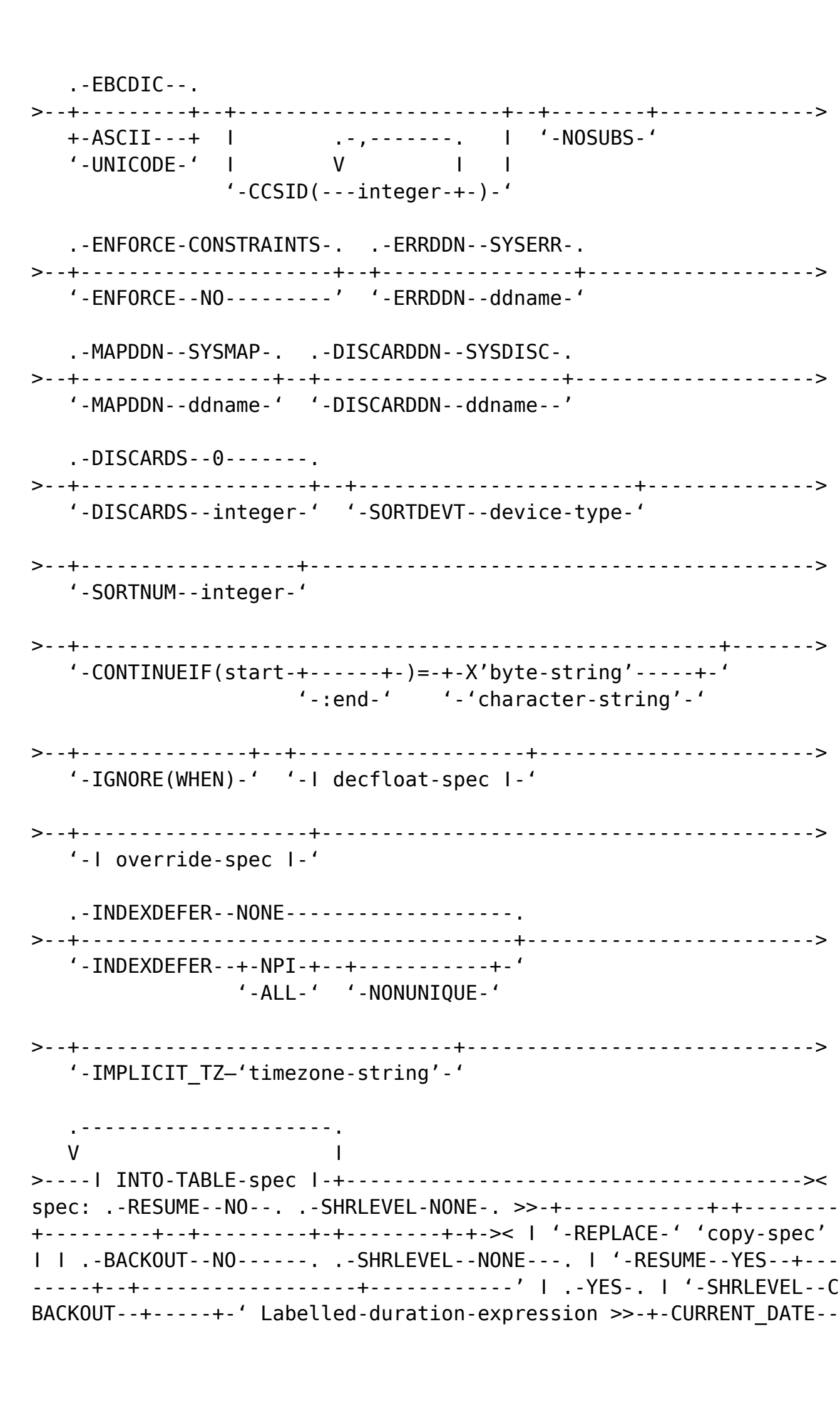
LISTDEF

```
                       .----------------.
                       V                |
>>-LISTDEF--list-name------list-options-----------------------------------
->

List-options:
>-+INCLUDE+-+-----------+-+-LIST-ref-list-+-+--------------++----+-+-----+-
+->
  ‘EXCLUDE’ I           I ‘-init-obj-spec-‘ ‘CLONED-+-YES-+-’’-RI-‘ +-ALL-+
            ‘-type-spec-‘                           ‘-NO--’         +-BASE+
                                                                    +-LOB-+
                                                                    ‘-XML-‘

    .-DEFINED YES-.
>--+-------------+--+---------+-----------------------------------------------
->
   +-DEFINED NO--+  +-HISTORY-+
   ‘-DEFINED ALL-‘  ‘-ARCHIVE-‘

>--+---------------+--+-----------------+-----------------------------
```

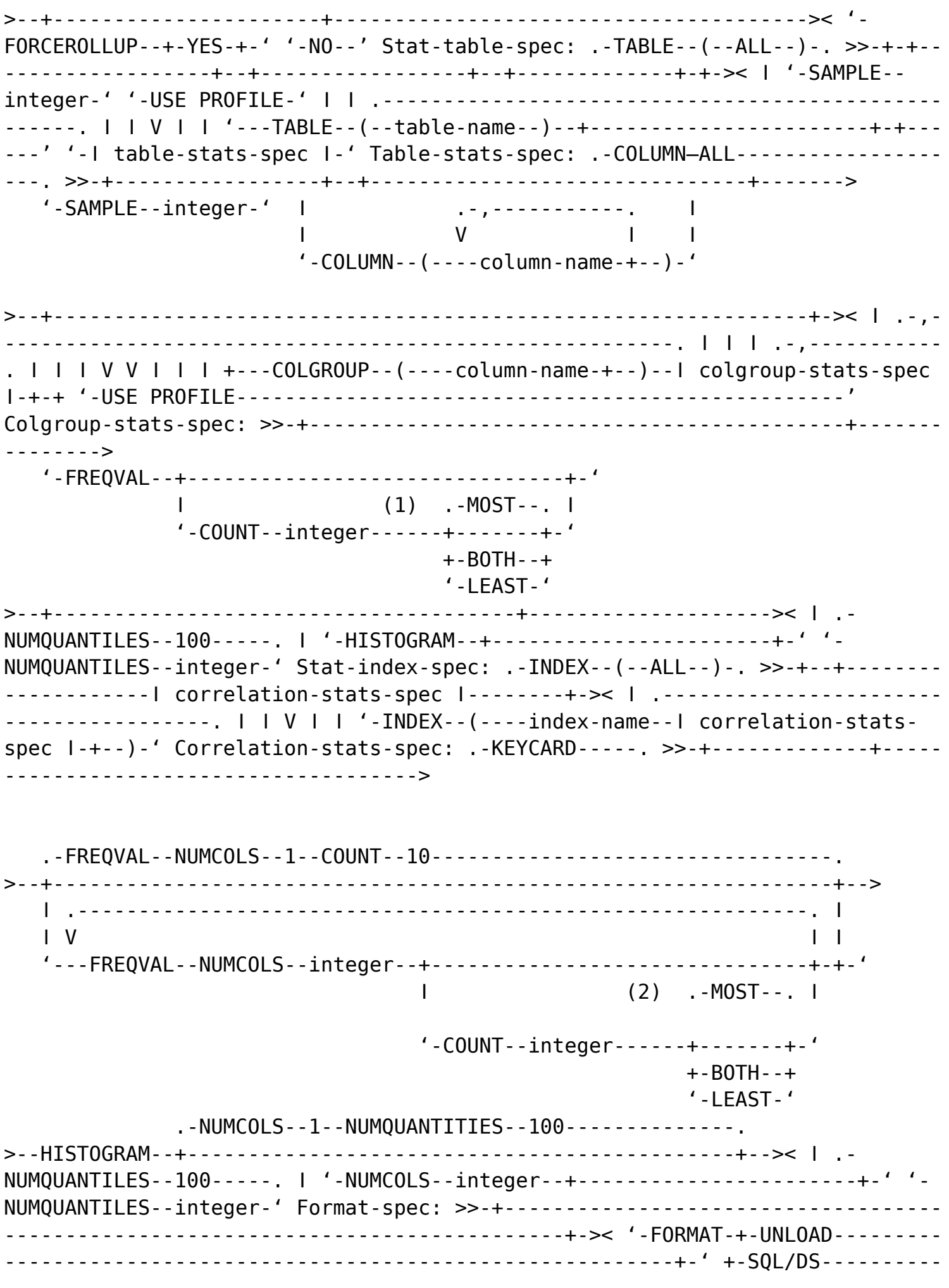
```
-><  '-BASIC--+-NO--+-'  '-EXTENDED--+-NO--+-'  '-YES-'  '-YES-'  Init-obj-spec
>>-+-DATABASE--database-name-+--+--------------------+---------------------
-><  +-table-space-spec--------+  '-PARTLEVEL--+-----+-'  +-index-space-spec----
----+  '-(n)-'  +-table-spec-------------+  +-index-spec-------------+  Table-
space-spec: TABLESPACE--+----------------+--table-space-name----------------
-----------><  '-database-name.-'  Index-space-spec: >>-INDEXSPACE--+--------
-------+--index-space-name-------------------------><  '-database-name.-'
Table-spec: >>-TABLE--+------------+--table-name--------------------------
-----------><  '-creator-id.-'  Index-space: >>-INDEX--+------------+--index-
name-------------------------------------><  '-creator-id.-'
```

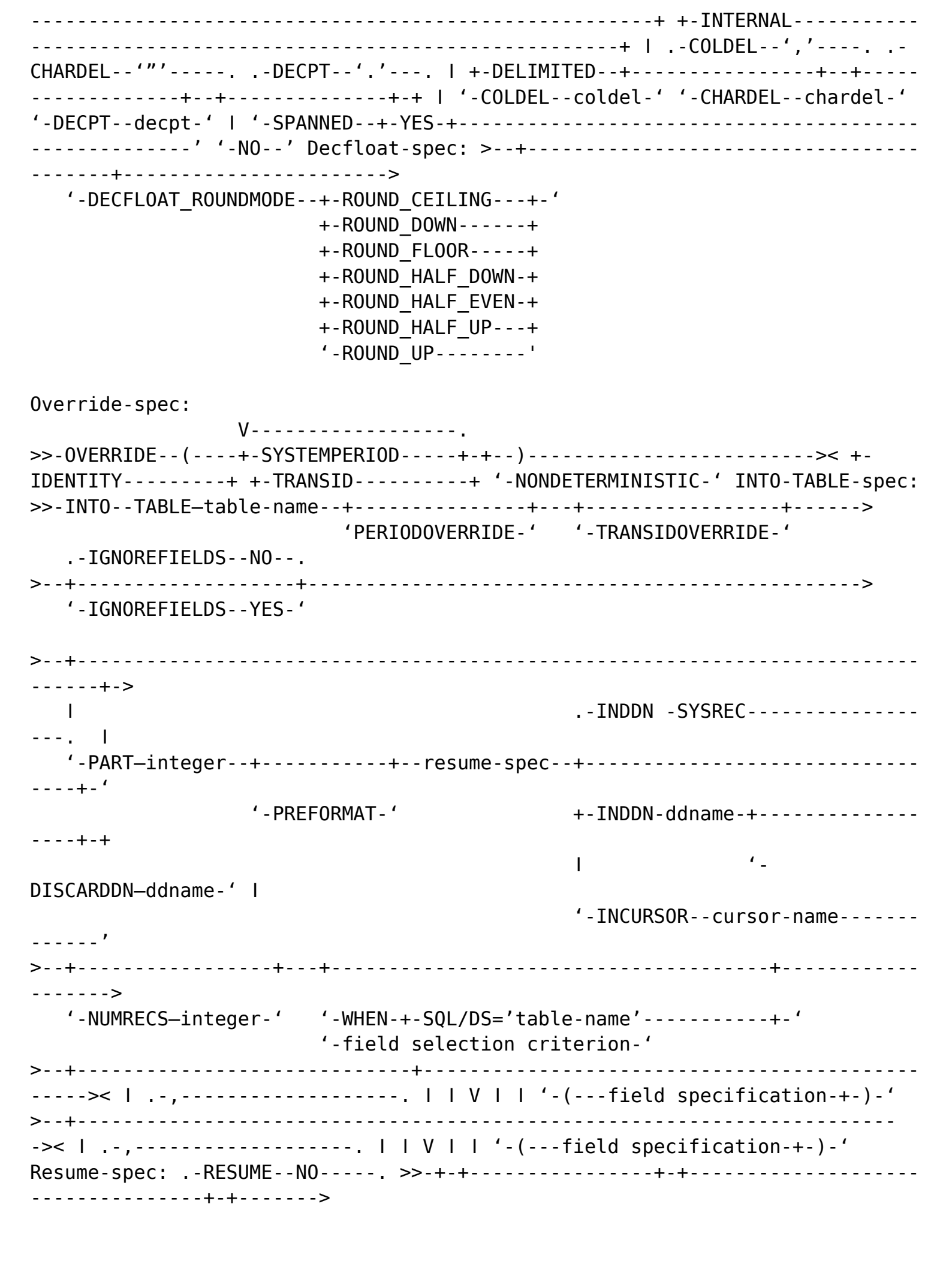
LOAD

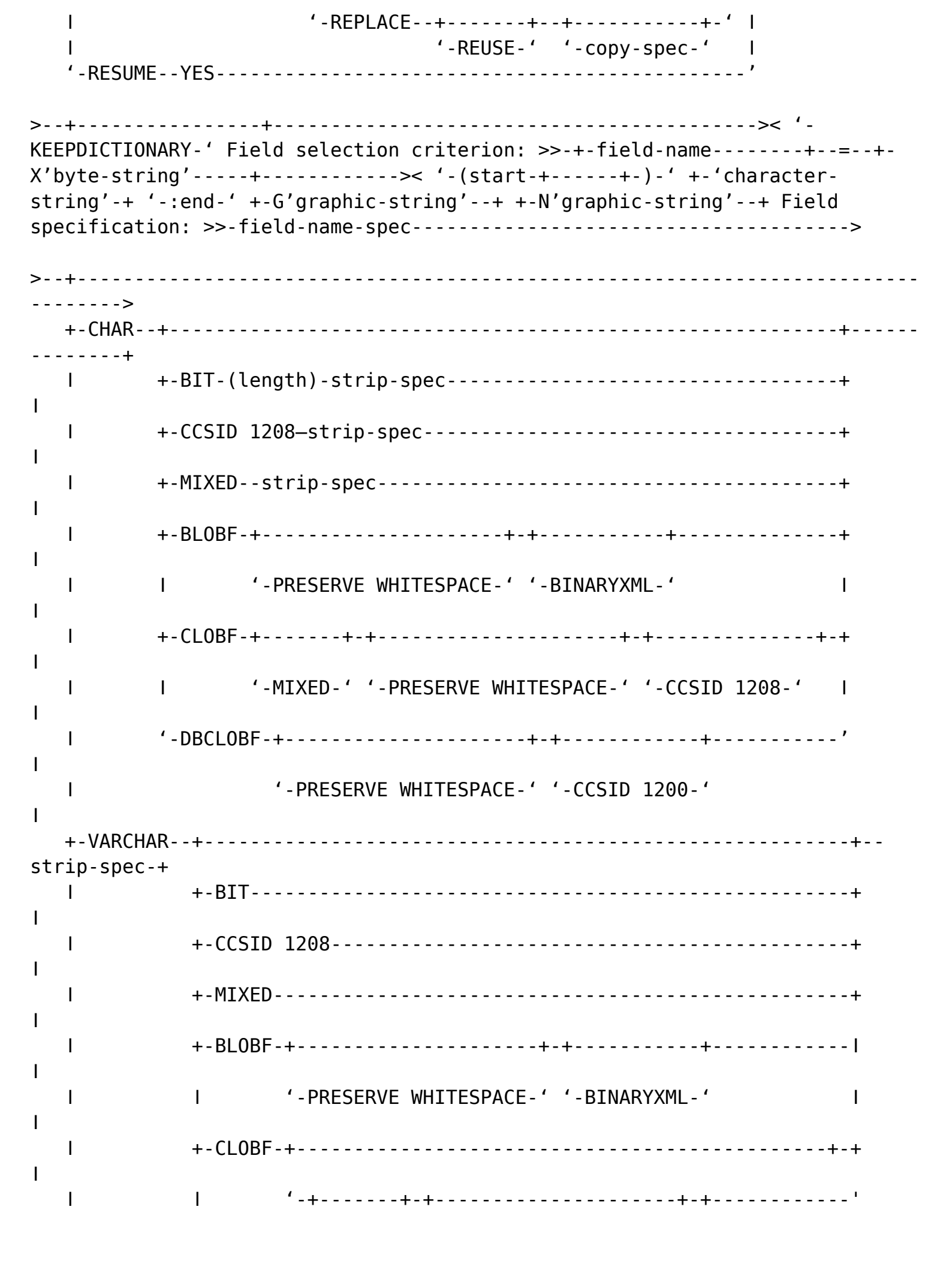
```
         .-DATA-.  .-INDDN--SYSREC---------.
>>-LOAD--+------+--+----------------------+--+-----------+------>
                  +-INDDN--ddname---------+  '-PREFORMAT-'
                  +-INCURSOR--cursor-name-+

                                     .-PRESORTED--NO--.
>--+-----------------------------+--+----------------+----------->
   |                  .-1-------. |  '-PRESORTED--YES-'
   '-COPYDICTIONARY--+-integer-+-'


>--+-----------------------------+--+--------------------+------>
   '-PARALLEL--+----------------+-'  '-ROWFORMAT--+-BRF-+-'
               '-(num-subtasks)-'                 '-RRF-'

>--+---------------------------------+--| resume-spec |--------->
   '-RBALRSN_CONVERSION--+-NONE-----+-'
                         +-BASIC----+
                         '-EXTENDED-'
>--| flashcopy-spec |--+----------------+--+-------+------------>
                       '-KEEPDICTIONARY-'  '-REUSE-'

   .-LOG--YES---------------.
>--+------------------------+--| workddn-spec |----------------->
   '-LOG--NO--+-----------+-'
              '-NOCOPYPEND-'

                  (1)
   .-SORTKEYS--0-------.                   .-FLOAT(S390)-.
>--+-------------------+--| format-spec |--+-------------+------->
   +-SORTKEYS--NO------+                   '-FLOAT(IEEE)-'
   '-SORTKEYS--integer-'
```

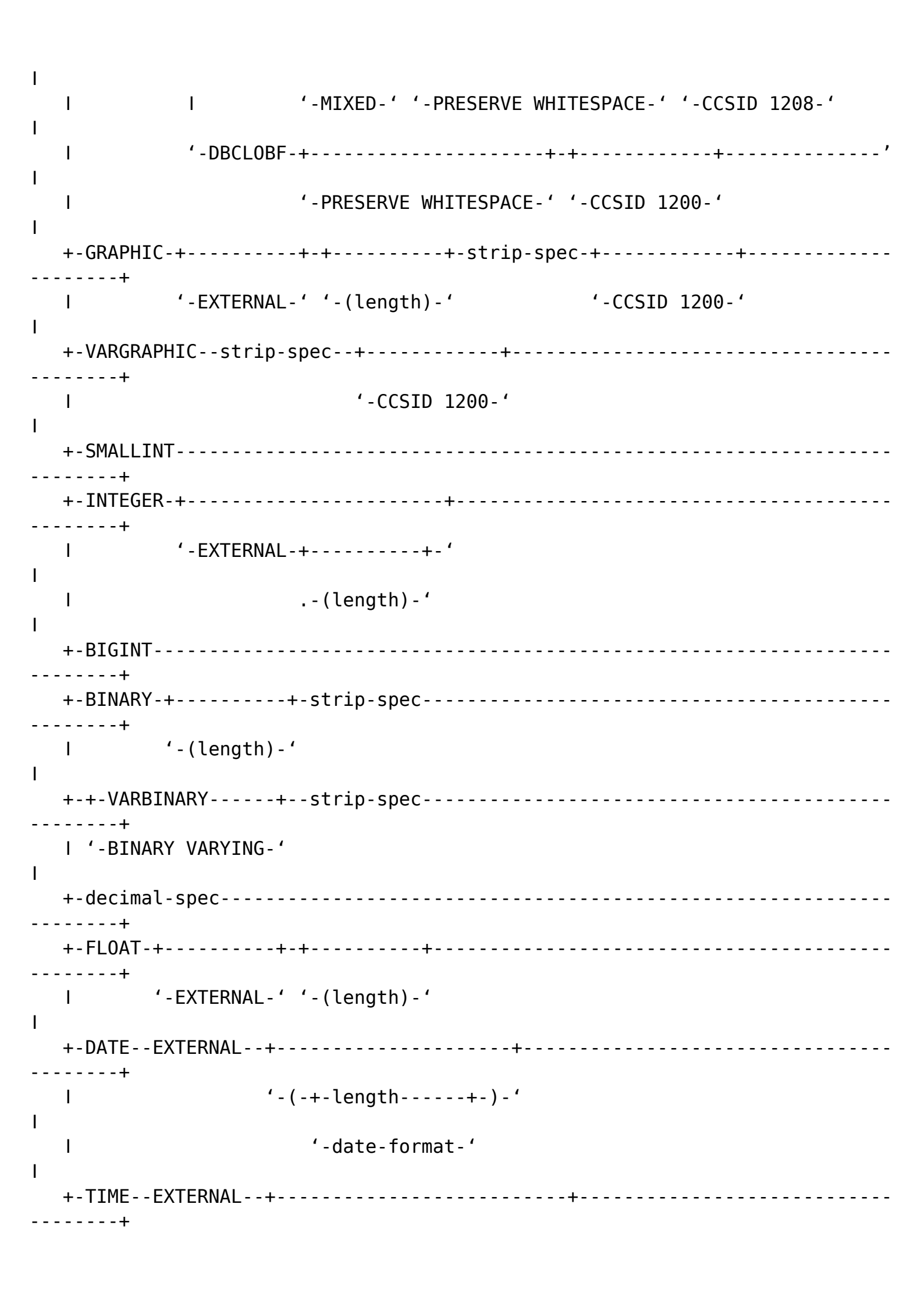

.-EBCDIC--.
>--+---------+--+----------------------+--+--------+------------>
+-ASCII---+ | .-,-------. | '-NOSUBS-'
'-UNICODE-' | V | |
'-CCSID(---integer-+-)-'
.-ENFORCE-CONSTRAINTS-. .-ERRDDN--SYSERR-.
>--+---------------------+--+----------------+------------------>
'-ENFORCE--NO---------' '-ERRDDN--ddname-'
.-MAPDDN--SYSMAP-. .-DISCARDDN--SYSDISC-.
>--+----------------+--+--------------------+------------------->
'-MAPDDN--ddname-' '-DISCARDDN--ddname--'
.-DISCARDS--0-------.
>--+-------------------+--+----------------------+-------------->
'-DISCARDS--integer-' '-SORTDEVT--device-type-'
>--+------------------+-->
'-SORTNUM--integer-'
>--+---+------->
'-CONTINUEIF(start-+------+-)=-+-X'byte-string'-----+-'
':end-' '-'character-string'-'
>--+--------------+--+-------------------+----------------------->
'-IGNORE(WHEN)-' '-| decfloat-spec |-'
>--+-------------------+-->
'-| override-spec |-'
.-INDEXDEFER--NONE-------------------.
>--+-------------------------------------+----------------------->
'-INDEXDEFER--+-NPI-+--+-----------+-'
'-ALL-' '-NONUNIQUE-'
>--+------------------------------+----------------------------->
'-IMPLICIT_TZ—'timezone-string'-'
.---------------------.
V |
>----| INTO-TABLE-spec |-+-------------------------------------><
Resume-spec: .-RESUME--NO--. .-SHRLEVEL-NONE-. >>-+------------+-+---------------+-+---------+--+---------+-+--------+-+-><
| '-REPLACE-' 'copy-spec' '-stats-'
| | .-BACKOUT--NO------. .-SHRLEVEL--NONE---. | '-RESUME--YES--+-------------+--+-----------------+-----------'
| .-YES-. | '-SHRLEVEL--CHANGE-' '-BACKOUT--+-----+-'
Labelled-duration-expression >>-+-CURRENT_DATE-----------

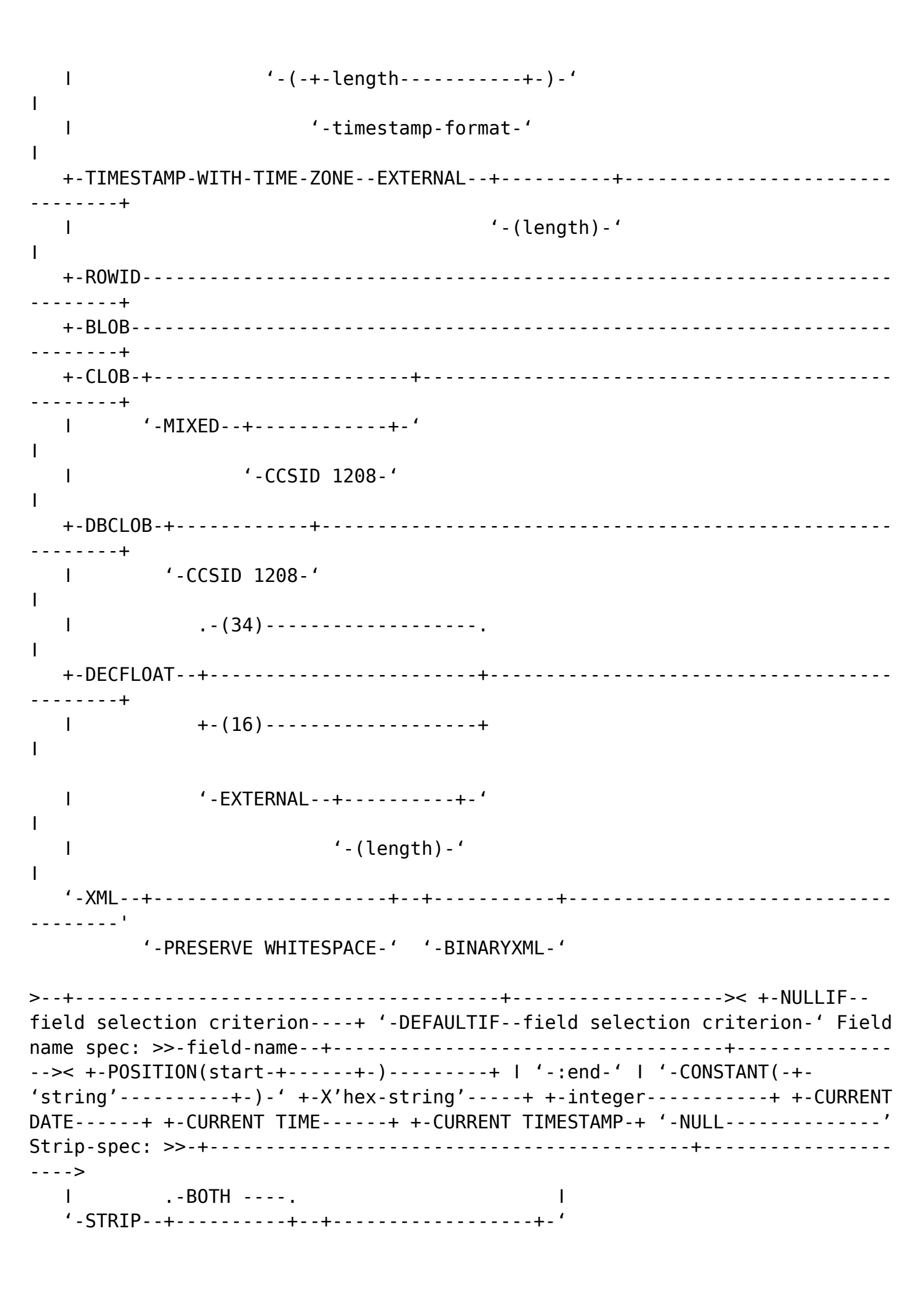
-CURRENT_TIMESTAMP-
-WITH TIME ZONE-
constant-
YEAR
YEARS
MONTH
MONTHS
DAY
DAYS
HOUR
HOURS
MINUTE
MINUTES
SECOND
SECONDS
MICROSECOND-
MICROSECONDS-
Workddn-spec:
WORKDDN(SYSUT1,SORTOUT)
WORKDDN-
(ddname1,ddname2)
SORTOUT
SYSUT1
Copy-spec:
SYSCOPY
COPYDDN-
(ddname1-
,ddname2
RECOVERYDDN(ddname3-
ddname4
Flashcopy-spec:
FLASHCOPY-NO
FLASHCOPY-YES
CONSISTENT
FCCOPYDDN-
(-template-name-)
Stats-spec:
STATISTICS-
stat-table-spec
stat-index-spec
REPORT-NO
REPORT-YES
UPDATE-ALL
UPDATE-
ACCESPATH
SPACE
NONE
INVALIDATECACHE-NO
INVALIDATECACHE YES
HISTORY-
ALL
ACCESSPATH
SPACE
NONE

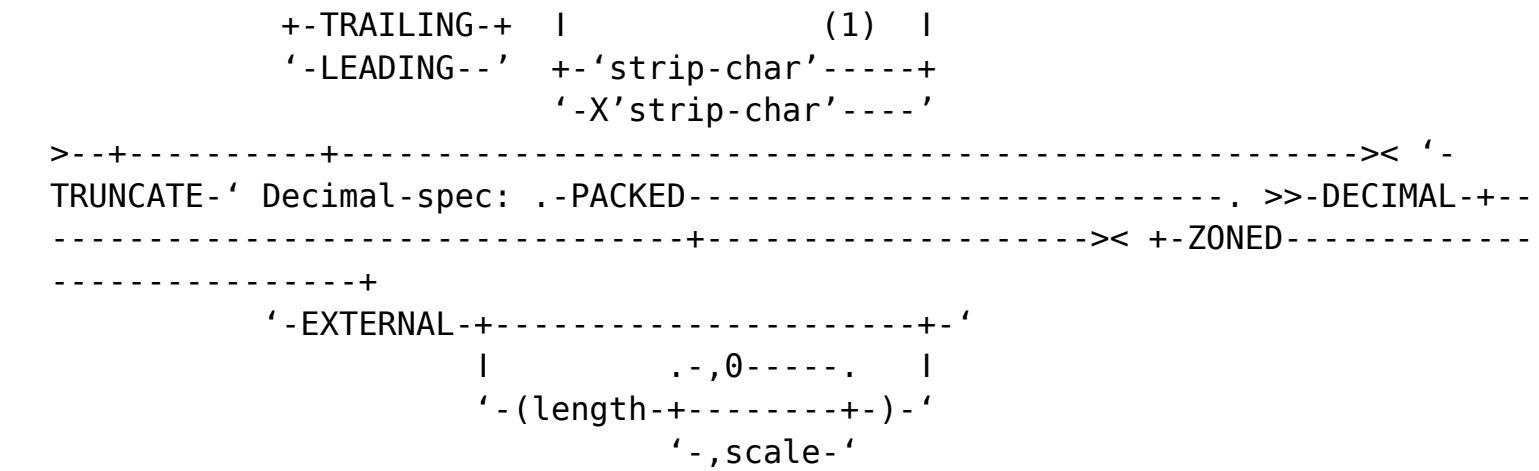

FORCEROLLUP
YES
NO
Stat-table-spec:
TABLE
ALL
SAMPLE
integer
USE PROFILE
table-name
table-stats-spec:
COLUMN—ALL
COLUMN
column-name
Table-stats-spec:
COLGROUP
colgroup-stats-spec
Colgroup-stats-spec:
FREQVAL
COUNT
integer
MOST
BOTH
LEAST
NUMQUANTILES
HISTOGRAM
Stat-index-spec:
INDEX
index-name
correlation-stats-spec
Correlation-stats-spec:
KEYCARD
NUMCOLS
NUMQUANTITIES
Format-spec:
FORMAT
UNLOAD
SQL/DS


+-INTERNAL-----------
+ | .-COLDEL--‘,’----. .-
CHARDEL--‘”’-----. .-DECPT--‘.’---. | +-DELIMITED--+---------------+--+-----
-------------+--+-------------+-+ | ‘-COLDEL--coldel-‘ ‘-CHARDEL--chardel-‘
‘-DECPT--decpt-‘ | ‘-SPANNED--+-YES-+-----------------------------------
--------------’ ‘-NO--’ Decfloat-spec: >--+---------------------------------
-------+----------------------->
‘-DECFLOAT_ROUNDMODE--+-ROUND_CEILING---+-‘
+-ROUND_DOWN------+
+-ROUND_FLOOR-----+
+-ROUND_HALF_DOWN-+
+-ROUND_HALF_EVEN-+
+-ROUND_HALF_UP---+
‘-ROUND_UP--------'
Override-spec:
V------------------.
>>-OVERRIDE--(----+-SYSTEMPERIOD-----+-+--)------------------------><
+-IDENTITY---------+ +-TRANSID----------+ ‘-NONDETERMINISTIC-‘ INTO-TABLE-spec:
>>-INTO--TABLE—table-name--+---------------+---+-----------------+------>
‘PERIODOVERRIDE-‘ ‘-TRANSIDOVERRIDE-‘
.-IGNOREFIELDS--NO--.
>--+------------------+-->
‘-IGNOREFIELDS--YES-‘
>--+---
------+->
| .-INDDN -SYSREC--------------
---. |
‘-PART—integer--+-----------+--resume-spec--+---------------------------
----+-‘
‘-PREFORMAT-‘ +-INDDN-ddname-+-------------
----+-+
| ‘-
DISCARDDN—ddname-‘ |
‘-INCURSOR--cursor-name-------
------’
>--+-----------------+---+--------------------------------------+-----------
------->
‘-NUMRECS—integer-‘ ‘-WHEN-+-SQL/DS=’table-name’-----------+-‘
‘-field selection criterion-‘
>--+-----------------------------+---
----->< | .-,-------------------. | | V | | ‘-(---field specification-+-)-‘
>--+---
->< | .-,-------------------. | | V | | ‘-(---field specification-+-)-‘
Resume-spec: .-RESUME--NO-----. >>-+-+----------------+-+------------------
--------------+-+------->
.-INTERNAL-----------
+ | .-COLDEL--‘,’----. .-
CHARDEL--‘”’-----. .-DECPT--‘.’---. | +-DELIMITED--+---------------+--+-----
-------------+--+-------------+-+ | ‘-COLDEL--coldel-‘ ‘-CHARDEL--chardel-‘
‘-DECPT--decpt-‘ | ‘-SPANNED--+-YES-+-----------------------------------
--------------’ ‘-NO--’ Decfloat-spec: >--+---------------------------------
-------+----------------------->
‘-DECFLOAT_ROUNDMODE--+-ROUND_CEILING---+-‘
+-ROUND_DOWN------+
+-ROUND_FLOOR-----+
+-ROUND_HALF_DOWN-+
+-ROUND_HALF_EVEN-+
+-ROUND_HALF_UP---+
‘-ROUND_UP--------'
Override-spec:
V------------------.
>>-OVERRIDE--(----+-SYSTEMPERIOD-----+-+--)------------------------><
+-IDENTITY---------+ +-TRANSID----------+ ‘-NONDETERMINISTIC-‘ INTO-TABLE-spec:
>>-INTO--TABLE—table-name--+---------------+---+-----------------+------>
‘PERIODOVERRIDE-‘ ‘-TRANSIDOVERRIDE-‘
.-IGNOREFIELDS--NO--.
>--+------------------+-->
‘-IGNOREFIELDS--YES-‘
>--+---
------+->
| .-INDDN -SYSREC--------------
---. |
‘-PART—integer--+-----------+--resume-spec--+---------------------------
----+-‘
‘-PREFORMAT-‘ +-INDDN-ddname-+-------------
----+-+
| ‘-
DISCARDDN—ddname-‘ |
‘-INCURSOR--cursor-name-------
------’
>--+-----------------+---+--------------------------------------+-----------
------->
‘-NUMRECS—integer-‘ ‘-WHEN-+-SQL/DS=’table-name’-----------+-‘
‘-field selection criterion-‘
>--+-----------------------------+---
-----><
>--+---
-><
Resume-spec: .-RESUME--NO-----. >>-+-+----------------+-+------------------
--------------+-+------->
.-,-------------------.
V
(---field specification-+-)
.-,-------------------.
V
(---field specification-+-)

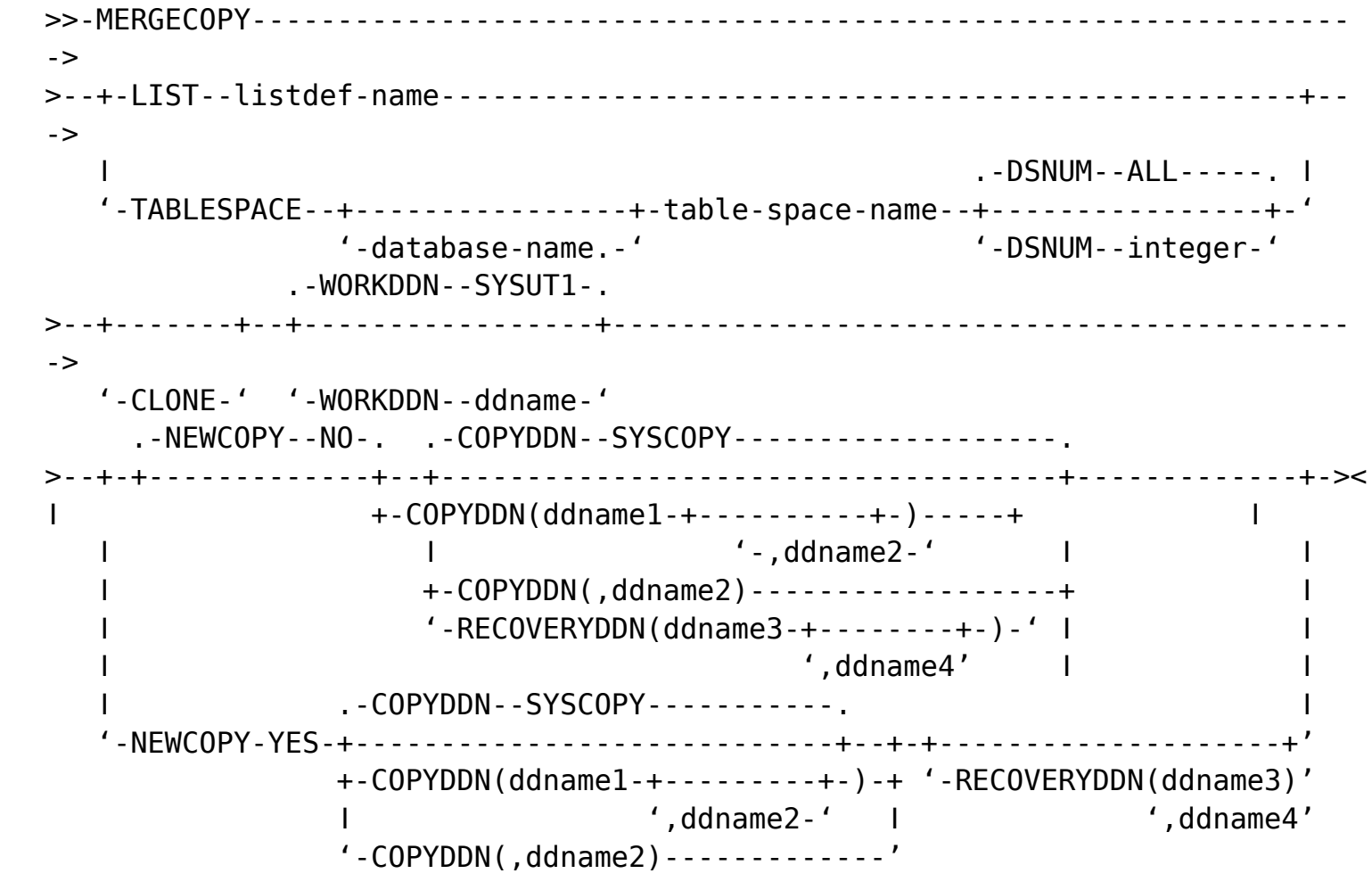

‘-REPLACE--+-------+--+-----------+-‘
‘-REUSE-‘ ‘-copy-spec-‘
‘-RESUME--YES---’
>--+---------------+---><
‘-KEEPDICTIONARY-‘
Field selection criterion:
>>-+-field-name--------+--=--+-X’byte-string’-----+-----------><
‘-(start-+------+-)-‘
+-‘character-string’-+
‘-:end-‘
+-G’graphic-string’--+
+-N’graphic-string’--+
Field specification:
>>-field-name-spec---><
>--+---><
+-CHAR--+---+-----------+
+-BIT-(length)-strip-spec-----------------------------------+
+-CCSID 1208—strip-spec-------------------------------------+
+-MIXED--strip-spec---+
+-BLOBF-+--------------------+-+----------+--------------+
‘-PRESERVE WHITESPACE-‘ ‘-BINARYXML-‘
+-CLOBF-+-------+-+--------------------+-+--------------+-+
‘-MIXED-‘ ‘-PRESERVE WHITESPACE-‘ ‘-CCSID 1208-‘
‘-DBCLOBF-+--------------------+-+-----------+----------’
‘-PRESERVE WHITESPACE-‘ ‘-CCSID 1200-‘
+-VARCHAR--+---+--strip-spec-+
+-BIT---+
+-CCSID 1208--+
+-MIXED---+
+-BLOBF-+--------------------+-+----------+------------+
‘-PRESERVE WHITESPACE-‘ ‘-BINARYXML-‘
+-CLOBF-+---+-+
‘-+-------+-+--------------------+-+------------'


‘-MIXED-‘ ‘-PRESERVE WHITESPACE-‘ ‘-CCSID 1208-‘
‘-DBCLOBF-
‘-PRESERVE WHITESPACE-‘ ‘-CCSID 1200-‘
+-GRAPHIC-
‘-EXTERNAL-‘ ‘-(length)-‘ ‘-CCSID 1200-‘
+-VARGRAPHIC--strip-spec--
‘-CCSID 1200-‘
+-SMALLINT
+-INTEGER-
‘-EXTERNAL-
.-(length)-‘
+-BIGINT
+-BINARY-
strip-spec
‘-(length)-‘
+-+-VARBINARY------
‘-BINARY VARYING-‘
+-decimal-spec
+-FLOAT-
‘-EXTERNAL-‘ ‘-(length)-‘
+-DATE--EXTERNAL--
‘-(-+-length------+-)-‘
‘-date-format-‘
+-TIME--EXTERNAL--

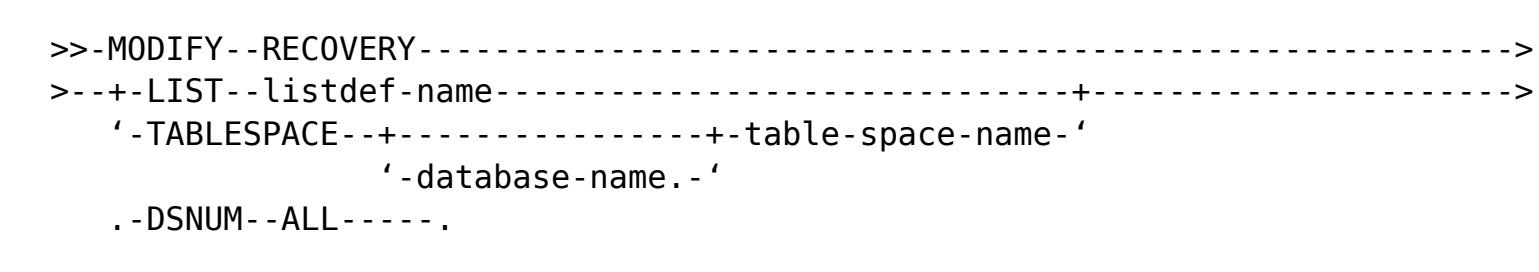

‘-(-+-length----------+-)-‘
‘-timestamp-format-‘
+-TIMESTAMP-WITH-TIME-ZONE--EXTERNAL--+----------+
‘-(length)-‘
+-ROWID
+-BLOB
+-CLOB-+
‘-MIXED--+------------+-‘
‘-CCSID 1208-‘
+-DBCLOB-+
‘-CCSID 1208-‘
.-(34)-------------------.
+-DECFLOAT--+
+-(16)-------------------+
‘-EXTERNAL--+----------+-‘
‘-(length)-‘
‘-XML--+
‘-PRESERVE WHITESPACE-‘
‘-BINARYXML-‘
>--+
field selection criterion----+
‘-DEFAULTIF--field selection criterion-‘
Field name spec: >>-field-name--+
--><
+-POSITION(start-+------+-)---------+
‘string’----------+-)-‘
+-X’hex-string’-----+
+-integer-----------+
+-CURRENT DATE------+
+-CURRENT TIME------+
+-CURRENT TIMESTAMP-+
‘-NULL-------------’
Strip-spec: >>-+
----->
.-BOTH ----.
‘-STRIP--+----------+--+-----------------+-‘

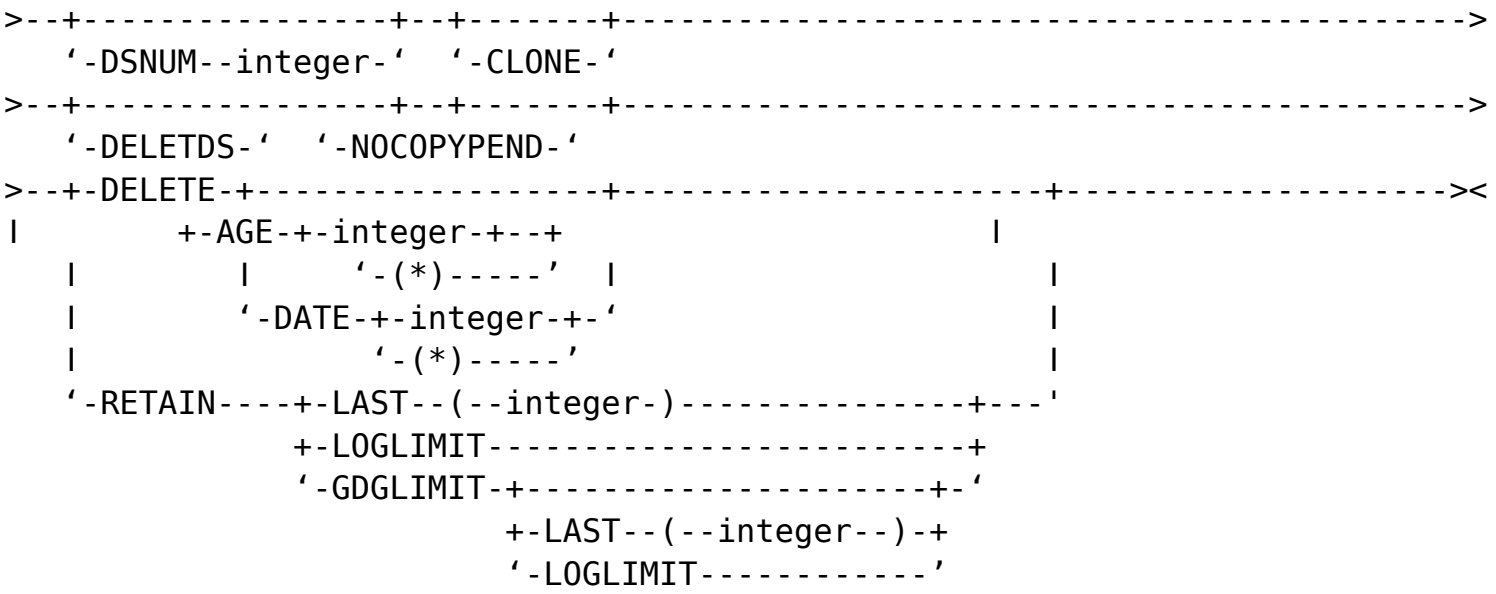


MERGECOPY

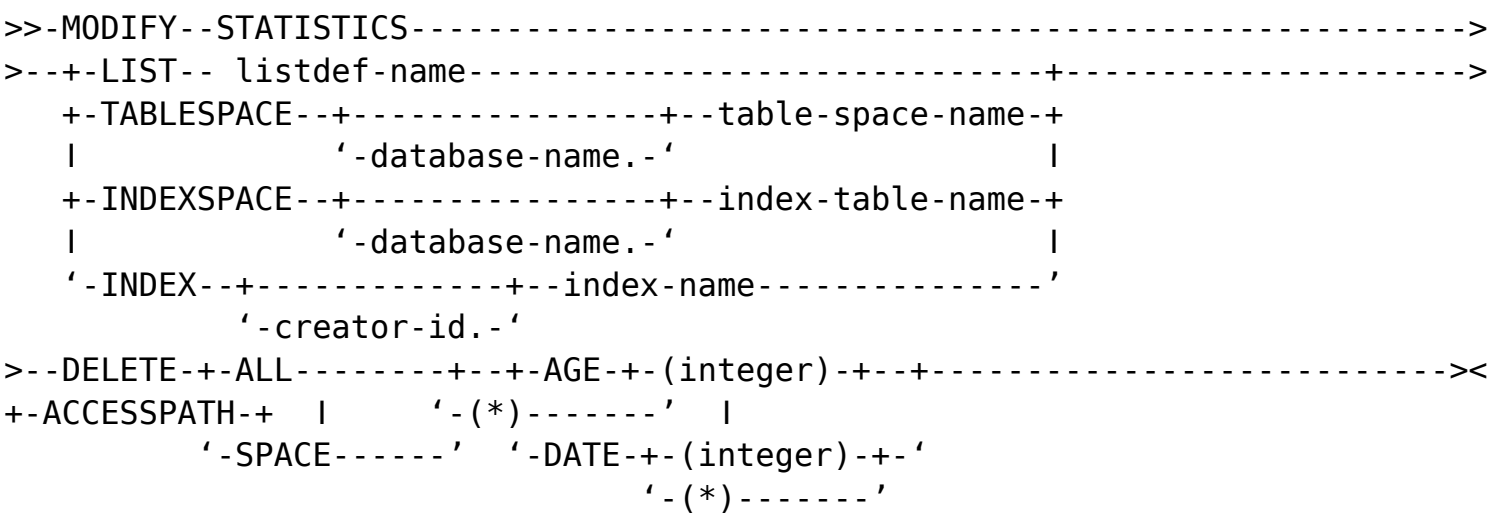


MODIFY RECOVERY

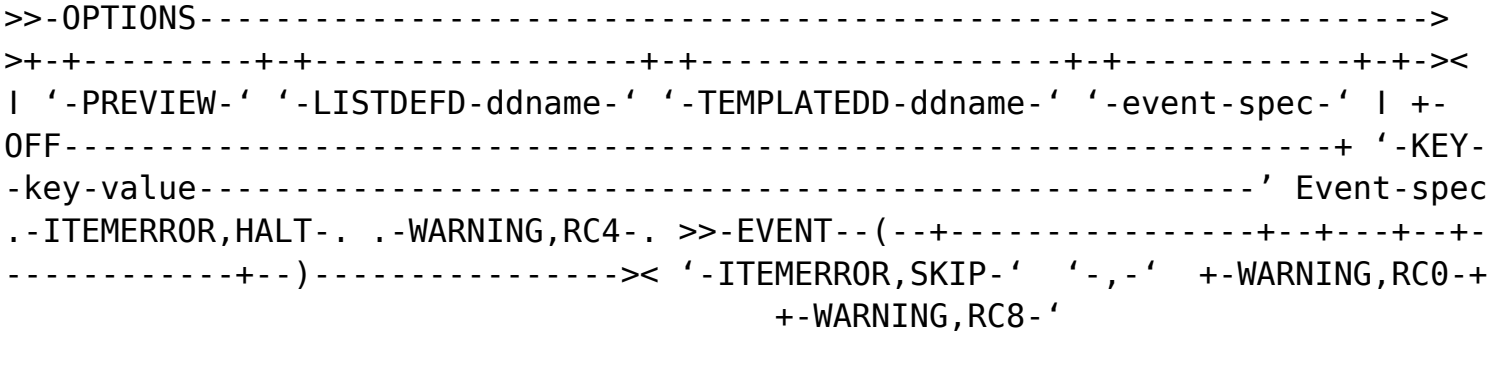




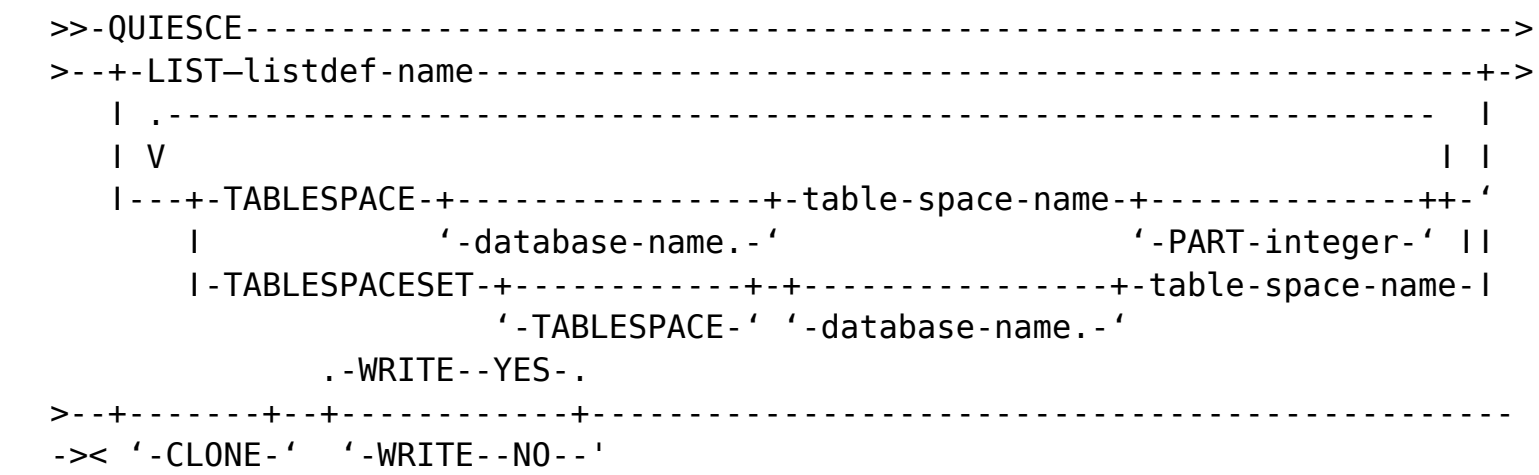
MODIFY STATISTICS



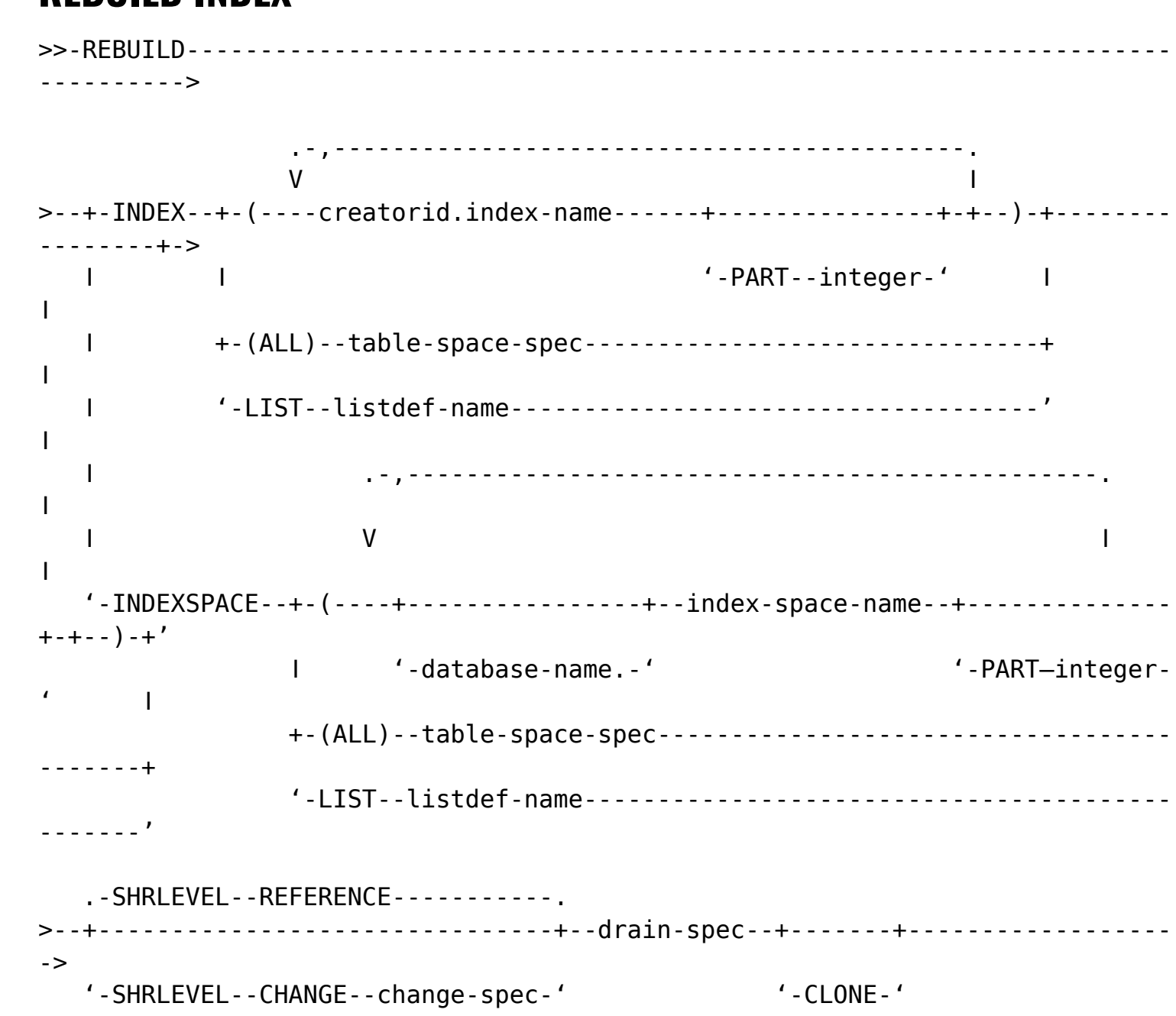
OPTIONS

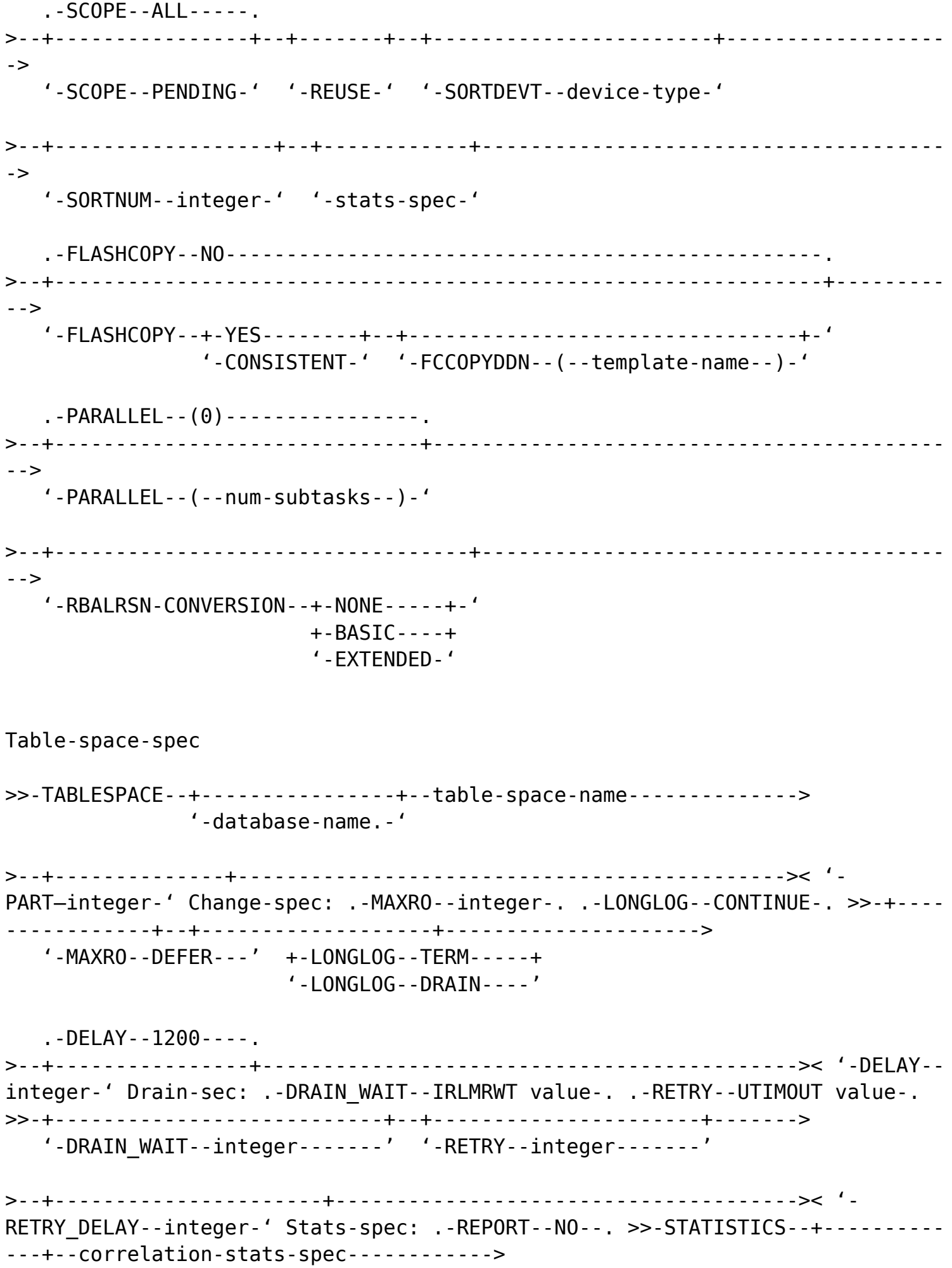


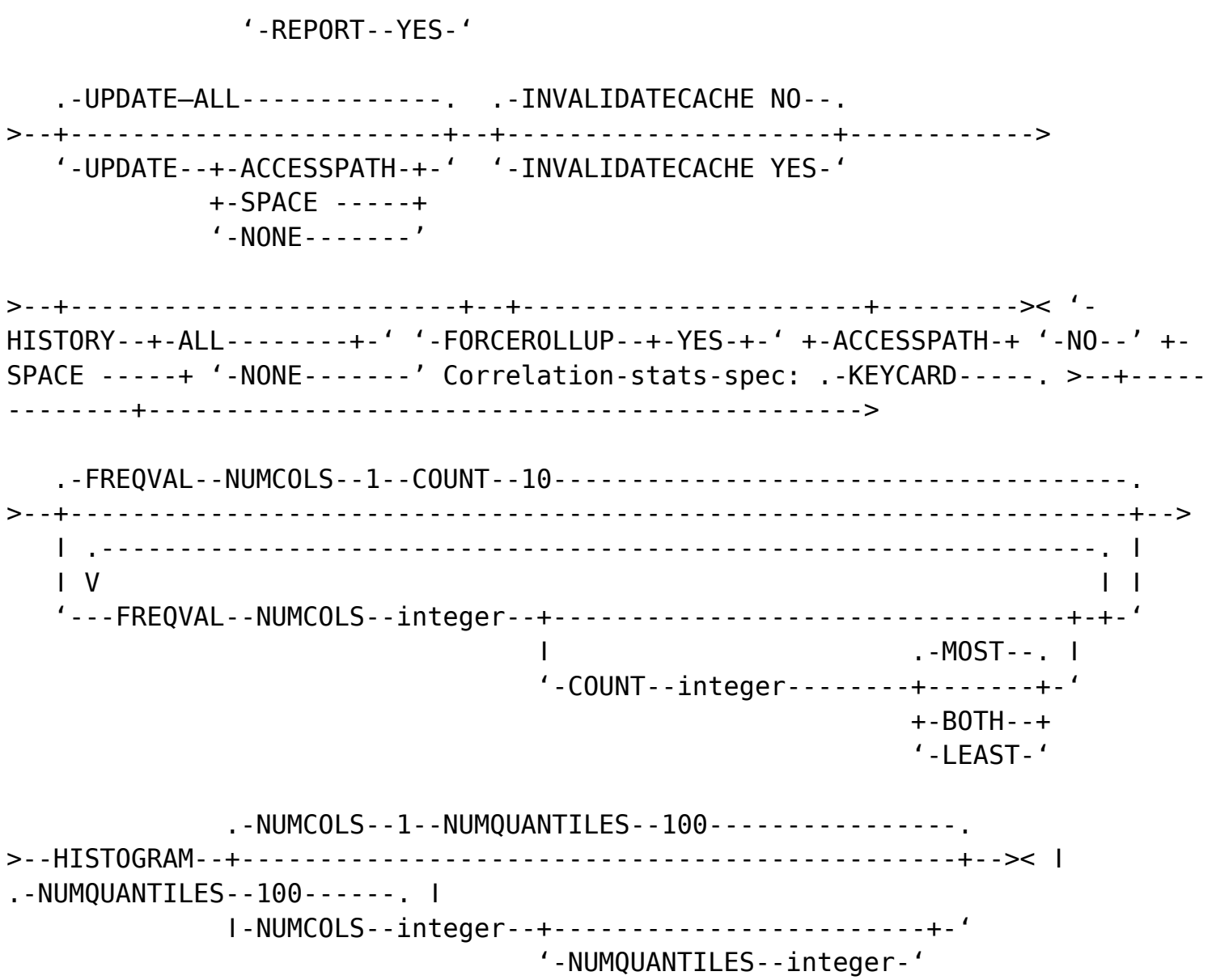
QUIESCE



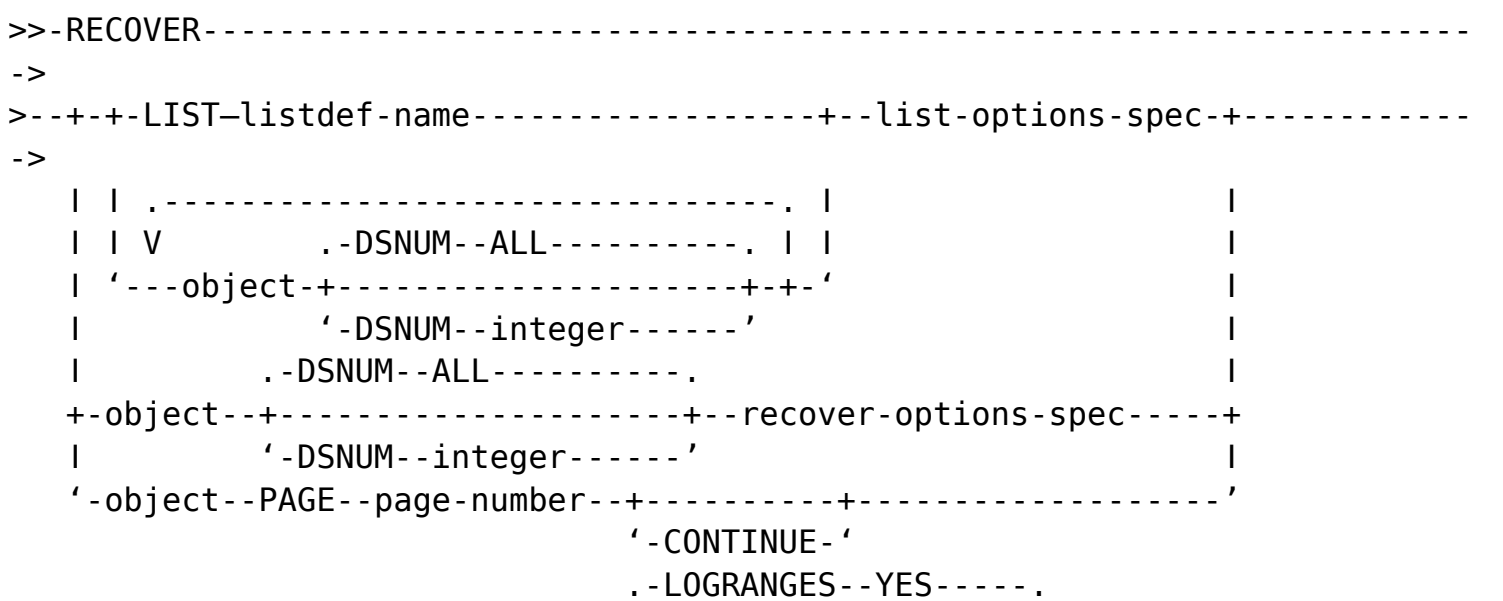
REBUILD INDEX

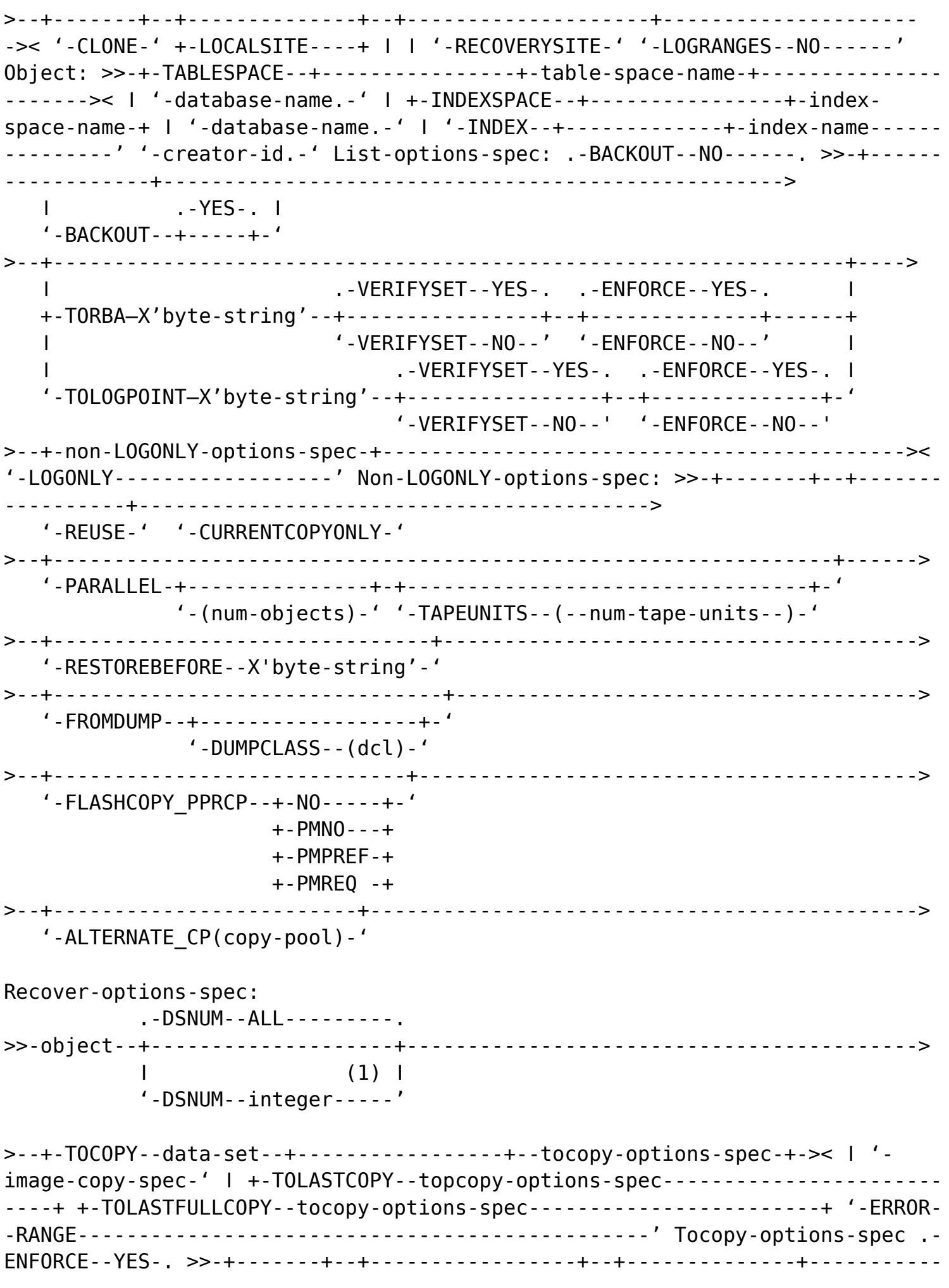



.-SCOPE--ALL-----.
>--+---------------+--+-------+--+----------------------+-----------------
->
‘-SCOPE--PENDING-‘ ‘-REUSE-‘ ‘-SORTDEVT--device-type-‘
>--+-----------------+--+-----------+-----------------------------------
->
‘-SORTNUM--integer-‘ ‘-stats-spec-‘
.-FLASHCOPY--NO---.
>--+---+---------
-->
‘-FLASHCOPY--+-YES--------+--+-------------------------------+-‘
‘-CONSISTENT-‘ ‘-FCCOPYDDN--(--template-name--)-‘
.-PARALLEL--(0)---------------.
>--+-----------------------------+---
-->
‘-PARALLEL--(--num-subtasks--)-‘
>--+---------------------------------+-------------------------------------
-->
‘-RBALRSN-CONVERSION--+-NONE-----+-‘
+-BASIC----+
‘-EXTENDED-‘
Table-space-spec
>>-TABLESPACE--+---------------+--table-space-name------------->
‘-database-name.-‘
>--+-------------+---><
‘-PART—integer-‘ Change-spec: .-MAXRO--integer-. .-LONGLOG--CONTINUE-. >>-+----
-----------+--+------------------+-------------------->
‘-MAXRO--DEFER---’ +-LONGLOG--TERM-----+
‘-LONGLOG--DRAIN----’
.-DELAY--1200----.
>--+---------------+---><
‘-DELAY--integer-‘ Drain-sec: .-DRAIN_WAIT--IRLMRWT value-. .-RETRY--UTIMOUT value-.
>>-+-------------------------+--+---------------------+------->
‘-DRAIN_WAIT--integer-------’ ‘-RETRY--integer-------’
>--+------------------+----------------------------------><
‘-RETRY_DELAY--integer-‘ Stats-spec: .-REPORT--NO--. >>-STATISTICS--+----------
---+--correlation-stats-spec---------->


'-REPORT--YES-'
.-UPDATE—ALL-------------. .-INVALIDATECACHE NO--.
>--+-----------------------+--+--------------------+----------->
'-UPDATE--+-ACCESSPATH-+-' '-INVALIDATECACHE YES-'
+-SPACE -----+
'-NONE-------'
>--+-------------------------+--+----------------------+---------><
'-
HISTORY--+-ALL--------+-' '-FORCEROLLUP--+-YES-+-' +-ACCESSPATH-+ '-NO--' +-
SPACE -----+ '-NONE-------' Correlation-stats-spec: .-KEYCARD-----. >--+-----
--------+--->
.-FREQVAL--NUMCOLS--1--COUNT--10-------------------------------------.
>--+---+-->
| .---. |
| V | |
'---FREQVAL--NUMCOLS--integer--+-----------------------------------+-+-'
| .-MOST--. |
'-COUNT--integer--------+-------+-'
+-BOTH--+
'-LEAST-'
.-NUMCOLS--1--NUMQUANTILES--100----------------.
>--HISTOGRAM--+--+--><
.-NUMQUANTILES--100------. |
|-NUMCOLS--integer--+------------------------+-'
'-NUMQUANTILES--integer-'

RECOVER


>>-RECOVER---
->
>--+-+-LIST—listdef-name-----------------+--list-options-spec-+-----------
->
| | .-------------------------------. | |
| | V .-DSNUM--ALL----------. | | |
| '---object-+--------------------+-+-' |
| '-DSNUM--integer------' |
| .-DSNUM--ALL----------. |
+-object--+--------------------+--recover-options-spec-----+
| '-DSNUM--integer------' |
'-object--PAGE--page-number--+----------+------------------'
'-CONTINUE-'
.-LOGRANGES--YES-----.


>--+-------+--+--------------+--+--------------------+--------------------
->< '-CLONE-' +-LOCALSITE----+ | | '-RECOVERYSITE-' '-LOGRANGES--NO------'
Object: >>-+-TABLESPACE--+----------------+-table-space-name-+---------------
------->< | '-database-name.-' | +-INDEXSPACE--+----------------+-index-
space-name-+ | '-database-name.-' | '-INDEX--+-------------+-index-name------
---------' '-creator-id.-' List-options-spec: .-BACKOUT--NO------. >>-+------
------------+-->
   | .-YES-. |
   '-BACKOUT--+-----+-'
>--+---+---->
   | .-VERIFYSET--YES-. .-ENFORCE--YES-. |
   +-TORBA—X'byte-string'--+----------------+--+--------------+------+
   | '-VERIFYSET--NO--' '-ENFORCE--NO--' |
   | .-VERIFYSET--YES-. .-ENFORCE--YES-. |
   '-TOLOGPOINT—X'byte-string'--+----------------+--+--------------+-'
                                '-VERIFYSET--NO--' '-ENFORCE--NO--'
>--+-non-LOGONLY-options-spec-+---><
'-LOGONLY-----------------' Non-LOGONLY-options-spec: >>-+-------+--+-------
---------+--->
   '-REUSE-' '-CURRENTCOPYONLY-'
>--+---+------>
   '-PARALLEL-+--------------+-+--------------------------------+-'
              '-(num-objects)-' '-TAPEUNITS--(--num-tape-units--)-'
>--+-------------------------------+-->
   '-RESTOREBEFORE--X'byte-string'-'
>--+-------------------------------+-->
   '-FROMDUMP--+-----------------+-'
               '-DUMPCLASS--(dcl)-'
>--+---------------------------+--->
   '-FLASHCOPY_PPRCP--+-NO-----+-'
                      +-PMNO---+
                      +-PMPREF-+
                      +-PMREQ -+
>--+-------------------------+--->
   '-ALTERNATE_CP(copy-pool)-'

Recover-options-spec:
            .-DSNUM--ALL---------.
>>-object--+--------------------+-->
            | (1) |
            '-DSNUM--integer-----'

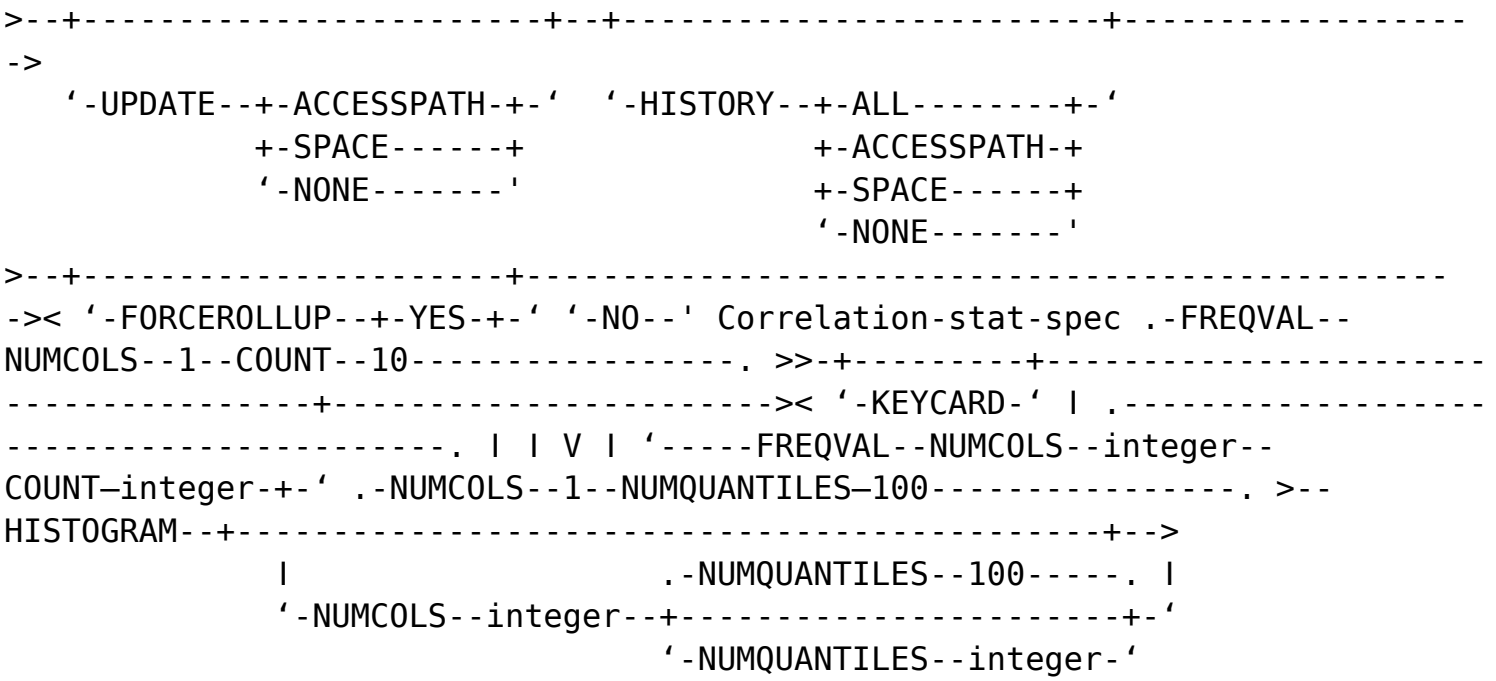
>--+-TOCOPY--data-set--+----------------+--tocopy-options-spec-+->< | '-
image-copy-spec-' | +-TOLASTCOPY--topcopy-options-spec----------------------
----+ +-TOLASTFULLCOPY--tocopy-options-spec-----------------------+ '-ERROR-
-RANGE---' Tocopy-options-spec .-
ENFORCE--YES-. >>-+-------+--+----------------+--+-------------+-----------

```
-->
   '-REUSE-'  '-CURRENTCOPYONLY-'  '-ENFORCE--NO--'

>--+-----------------------+----------------------------------->
   '-NOSYSCOPY--+---------+-'
                +-INLCOPY-+
                '-FCCOPY--'

>--+---------------------------+-----------------------------><
FLASHCOPY_PRCP--+-NO-----+-' +-PMNO---+ +-PMPREF-+ '-PMREQ —' Image-copy-
spec: >>-TOVOLUME-+-CATALOG----------------------+------------------><
vol-ser-+------------------+-'
                    '-TOSEQNO--integer-'
```

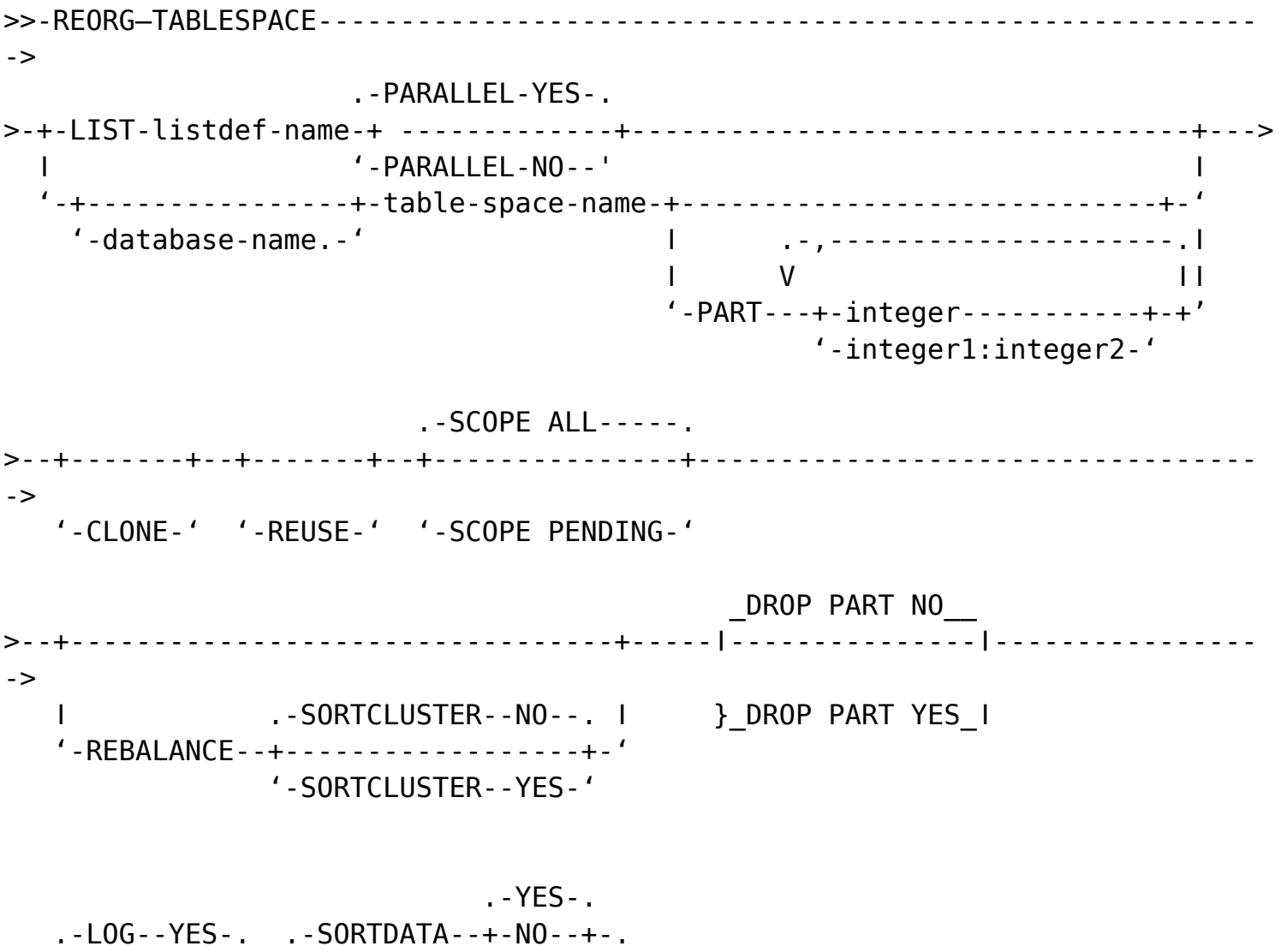
REORG INDEX

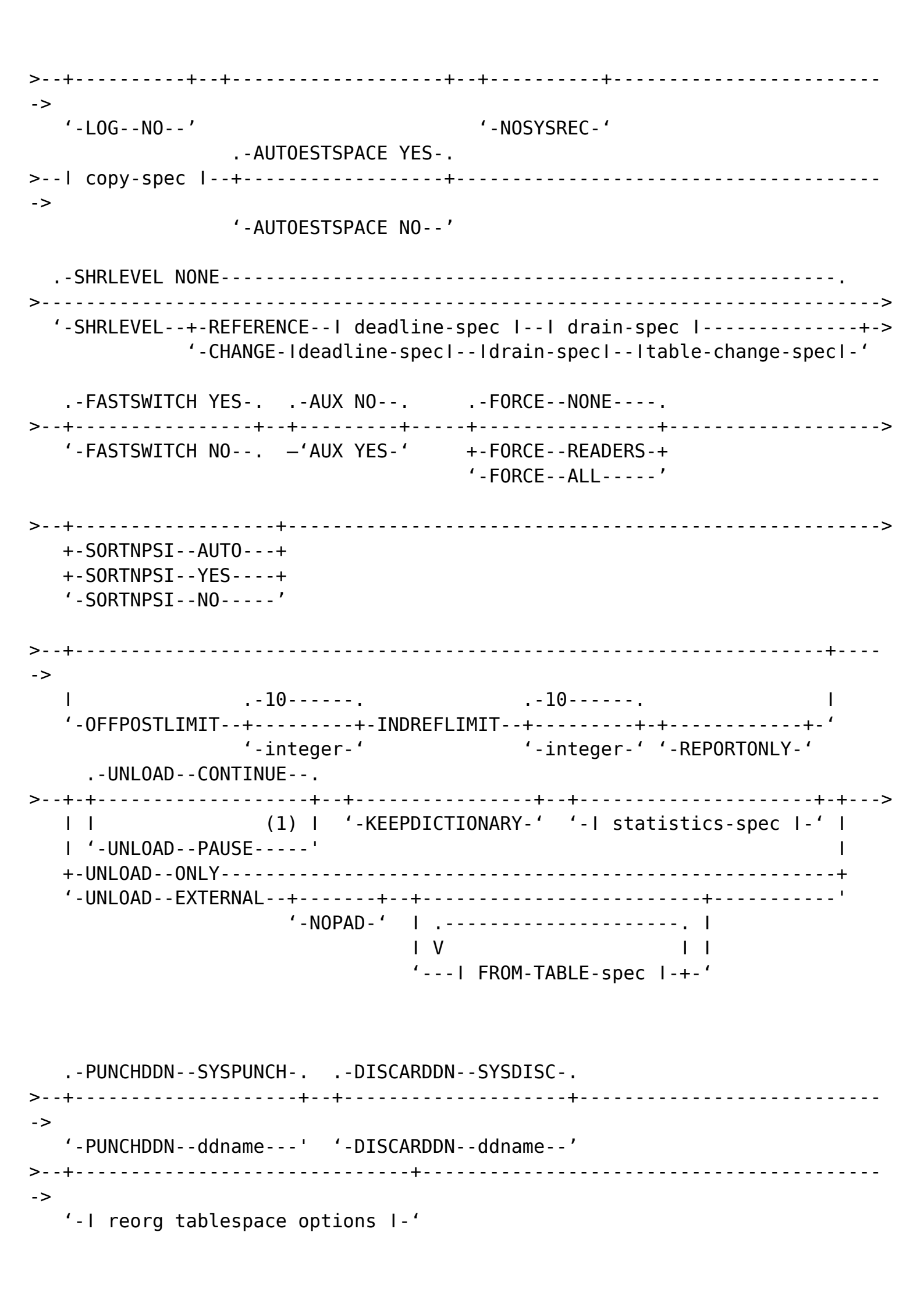
```
>>-REORG--+-INDEX--LIST--listdef-name-+--+-------+--+-------+------------>
          '-index-name-spec-----------'  '-REUSE-'   '-CLONE-'

   .-SHRLEVEL NONE-------------------------------------------------.
>--+-----------------------------------------------------------------+-------->
   '-SHRLEVEL-+-REFERENCE--deadline-spec--drain-spec-----------+-'
              '-CHANGE--deadline-spec--drain-spec--change-spec-'

   .-FASTSWITCH YES----.
>--+-------------------|------------------------------------------------>
   '-FASTSWITCH NO-----'

                                                    .-FORCE—NONE----.
>--+-------------------------------------------+----+--------------+------->
   '-LEAFDISTLIMIT-+---------+-+------------+-'    +-FORCE—READERS-+
                   '-integer-' '-REPORTONLY-'      '-FORCE--ALL----'

   .-UNLOAD—CONTINUE-------.
>--+-----------------------+--+----------------+------------------------->
   '-UNLOAD--+-PAUSE-----+-'  '-stats-spec------'
             '-ONLY------'
   .-WORKDDN--(SYSUT1)-.
>--+-------------------+--+----------+---------------------------------->
   '-WORKDDN--(ddname)-'  '-PREFORMAT-'
>--+-------------------------------------------------+------------------><
I .-NO---------. I '-FLASHCOPY--+-YES--------+--+------------------+-' '-
CONSISTENT-' '-FCCOPYDDN(ddname)-' >--+----------------------------------+---
------------------------------><  '-RBALRSN_CONVERSION--+-NONE-----+-' +-
BASIC----+ '-EXTENDED-' Index-name-spec >>-+-INDEX-+-------------+-index-
name--------------+---------------------->
```

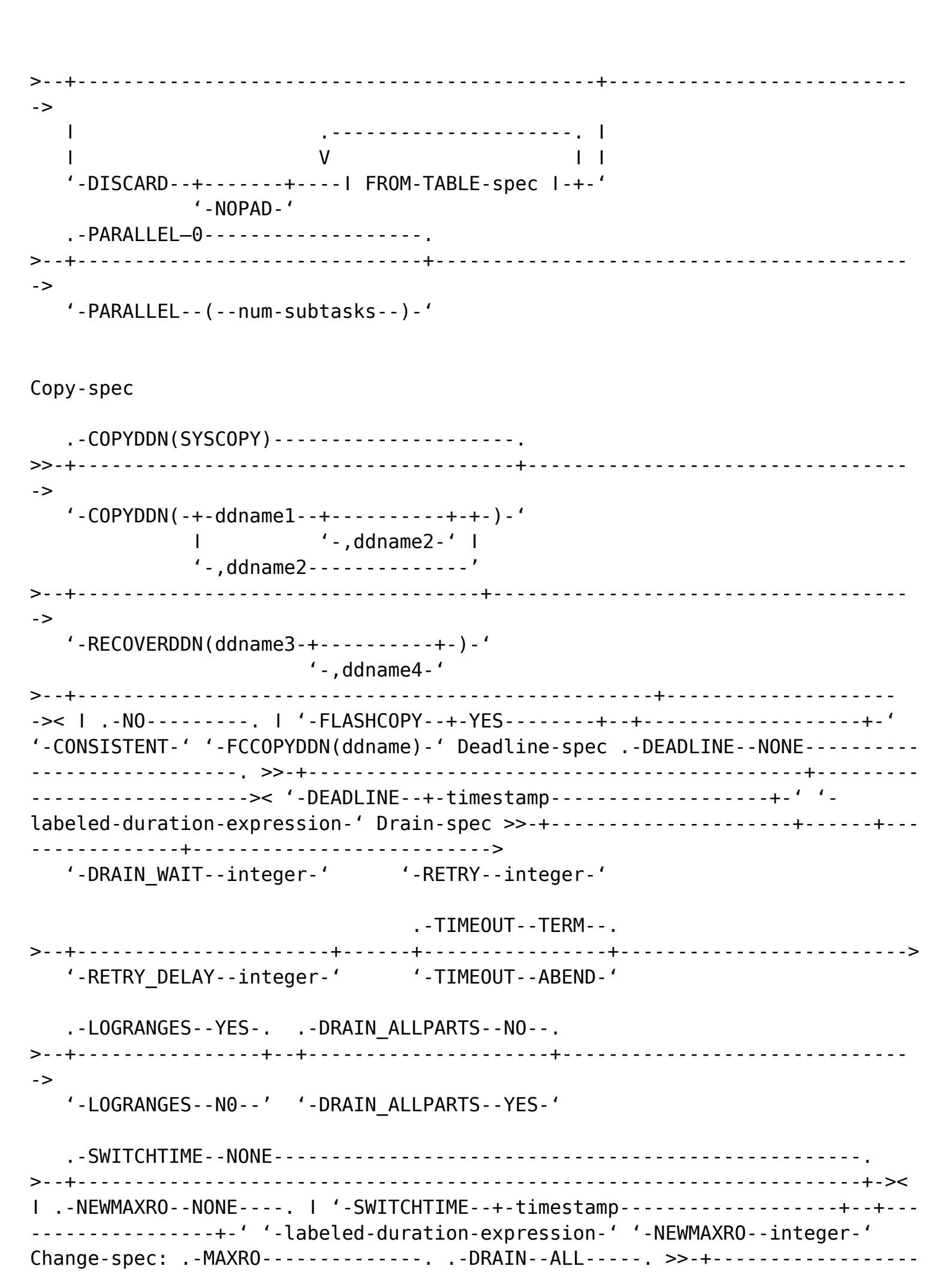
'-creator-id.-'
'-INDEXSPACE-+----------+-index-space-name-'
'-database-name.-'
'-PART--integer-' Deadline-spec .-DEADLINE--NONE----------.
.-DEADLINE--+-timestamp----------+-' '-labeled-duration-expression-'
Drain-spec .-DRAIN_WAIT--integer-'
'-RETRY--integer-'
_TIMEOUT TERM---
'-RETRY_DELAY--integer-' |-TIMEOUT ABEND__| Change-spec .-DRAIN--ALL-----.
(1)
'-MAXRO--+-integer-+-----'
'-DEFER---'
.-LONGLOG--CONTINUE--.
'-LONGLOG--+-TERM--+-'
'-DRAIN-'
.-DELAY--1200----.
'-DELAY--integer-'
.-LOGRANGES--YES-.
'-LOGRANGES--NO--'
.-SWITCHTIME--NONE----------.
| .-NEWMAXRO--NONE----. | '-SWITCHTIME--+-timestamp----------+--+-
'-labeled-duration-expression-' '-NEWMAXRO--integer-'
Labelled-duration-expression .-CURRENT_DATE----------.
'-CURENT_TIMESTAMP---+----------+-----'
'-WITH TIME ZONE-'
.----------.
+ -+--constant--+-YEAR---------+-+
+-YEARS--------+ +-MONTH--------+ +-MONTHS-------+ +-DAY----------+ +-
DAYS---------+ +-HOUR---------+ +-HOURS--------+ +-MINUTE-------+ +-MINUTES-
----+ +-SECOND-------+ +-SECONDS------+ +-MICROSECOND--+ +-MICROSECONDS-+
Stats-spec .-REPORT--NO--. STATISTICS--+----------+--correlation-stats-
spec
'-REPORT--YES-'
.-UPDATE-ALL----------.

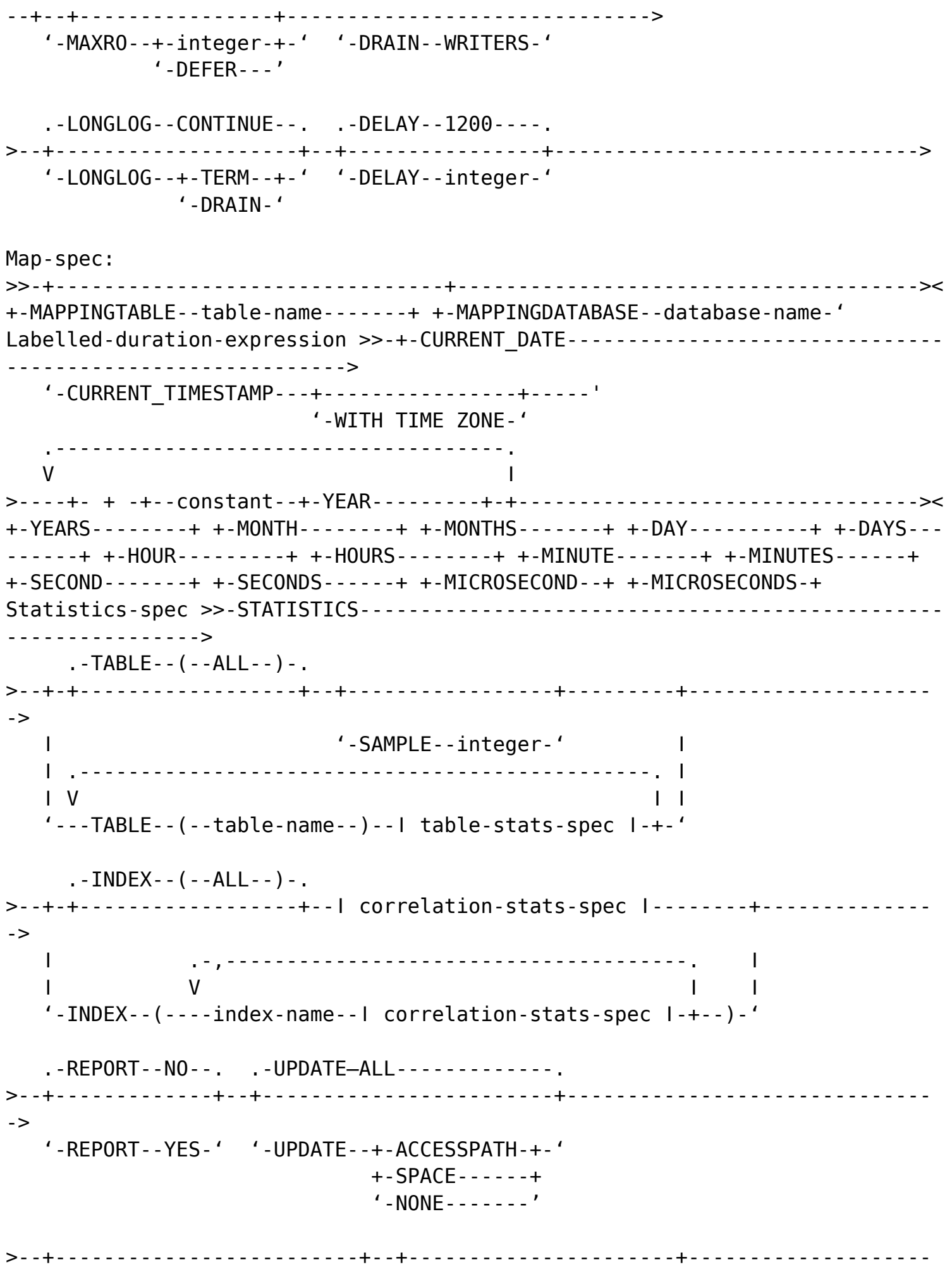


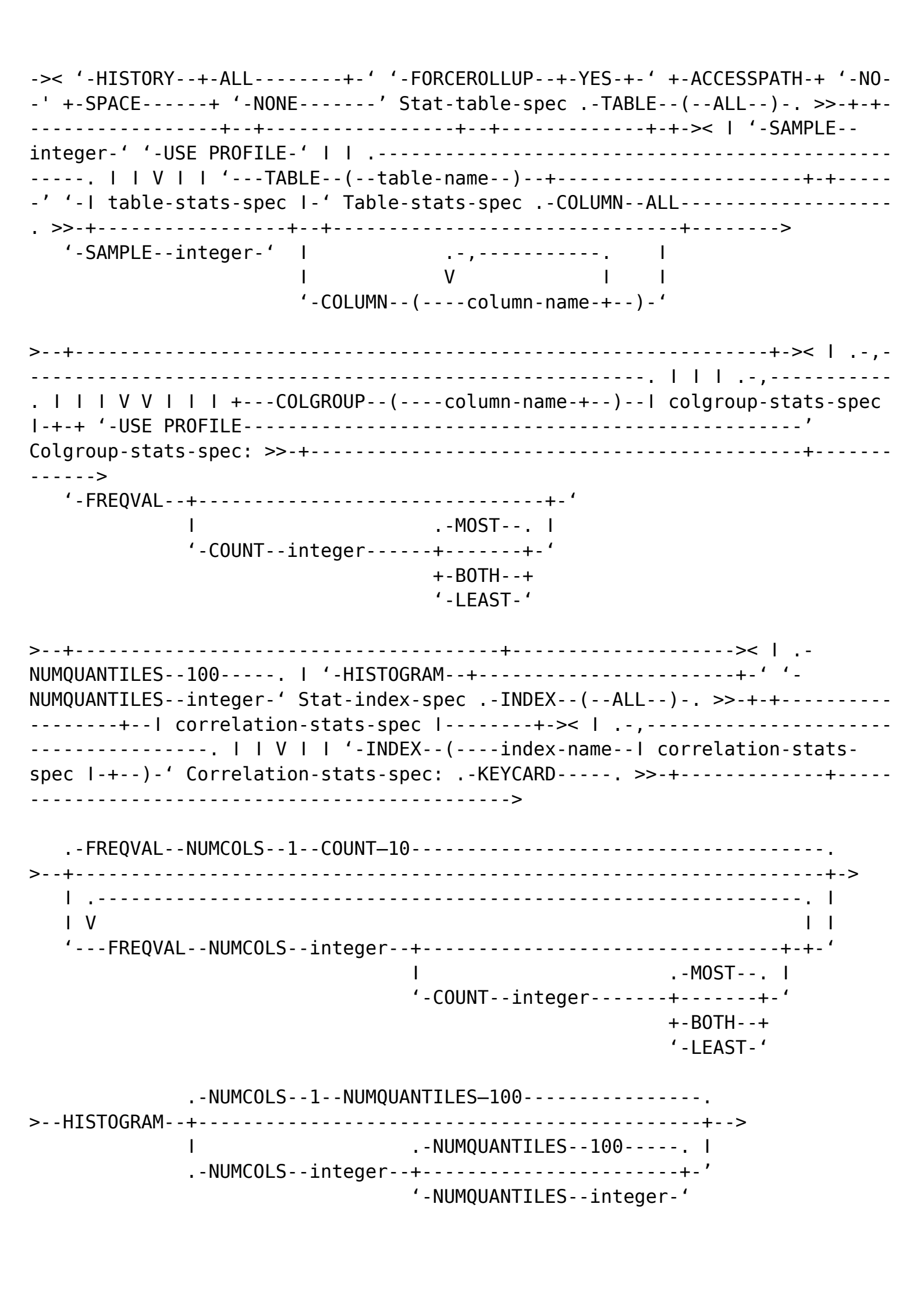
REORG TABLESPACE



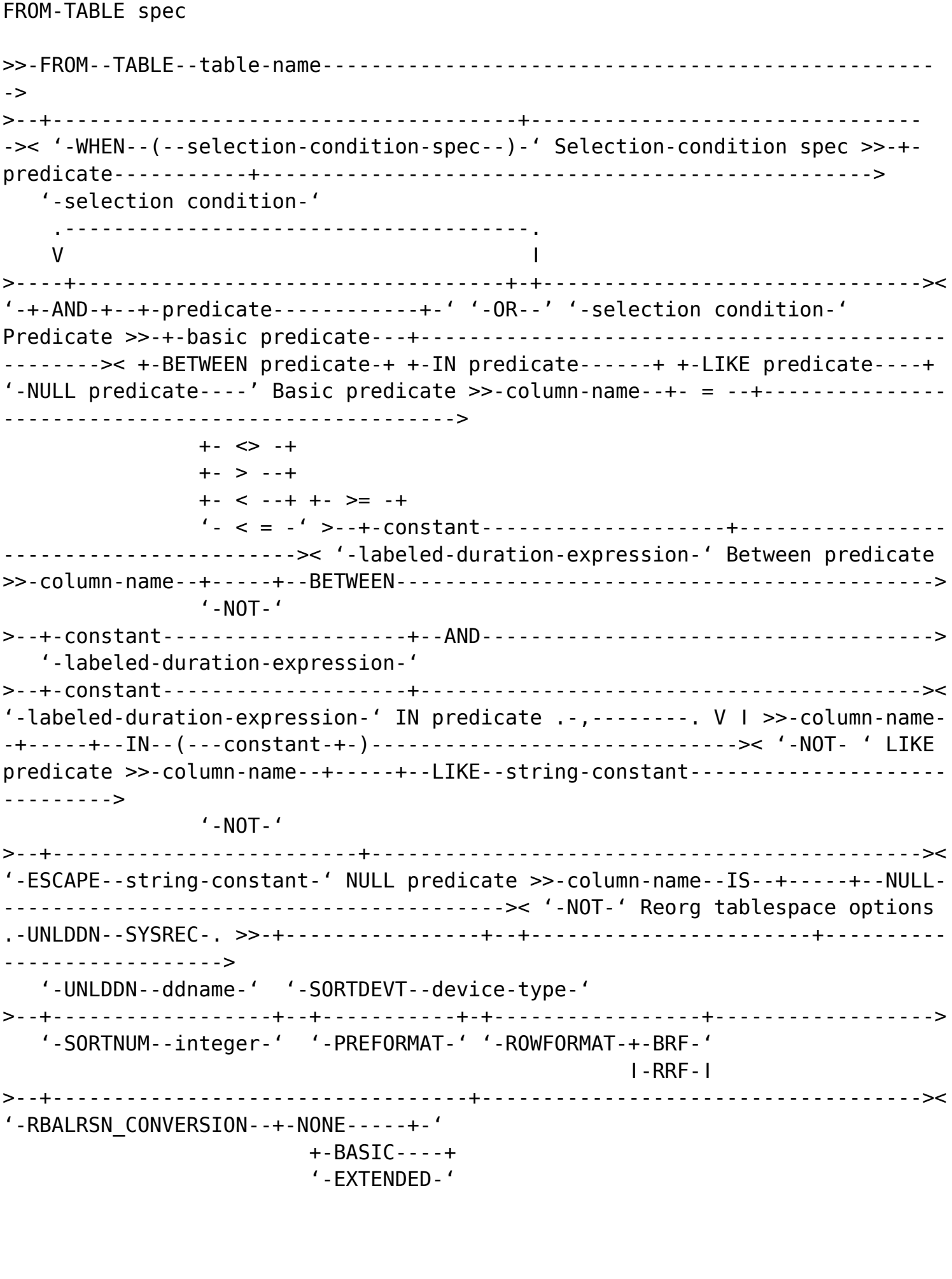

-LOG--NO--'
'-NOSYSREC-'
.-AUTOESTSPACE YES-.
copy-spec
'-AUTOESTSPACE NO--'
.-SHRLEVEL NONE-
'-SHRLEVEL--+-REFERENCE--
deadline-spec
drain-spec
'-CHANGE-
table-change-spec
.-FASTSWITCH YES-.
.-AUX NO--.
.-FORCE--NONE----.
'-FASTSWITCH NO--.
'AUX YES-'
+-FORCE--READERS-+
'-FORCE--ALL-----'
+-SORTNPSI--AUTO---+
+-SORTNPSI--YES----+
'-SORTNPSI--NO-----'
.-10------.
'-OFFPOSTLIMIT--+
'-integer-'
-INDREFLIMIT--
'-integer-'
'-REPORTONLY-'
.-UNLOAD--CONTINUE--.
(1)
'-KEEPDICTIONARY-'
'-I statistics-spec I-'
'-UNLOAD--PAUSE-----'
+-UNLOAD--ONLY-
'-UNLOAD--EXTERNAL--+-------+--
'-NOPAD-'
FROM-TABLE-spec
.-PUNCHDDN--SYSPUNCH-.
.-DISCARDDN--SYSDISC-.
'-PUNCHDDN--ddname---'
'-DISCARDDN--ddname--'
'-I reorg tablespace options I-'


>--+---+-------------------------
->
| .---------------------. |
| V | |
‘-DISCARD--+-------+----| FROM-TABLE-spec |-+-‘
‘-NOPAD-‘
.-PARALLEL—0-------------------.
>--+-----------------------------+---
->
‘-PARALLEL--(--num-subtasks--)-‘
Copy-spec
.-COPYDDN(SYSCOPY)---------------------.
>>-+-------------------------------------+---------------------------------
->
‘-COPYDDN(-+-ddname1--+----------+-+-)-‘
| ‘-,ddname2-‘ |
‘-,ddname2-------------’
>--+-----------------------------------+-------------------------------------
->
‘-RECOVERDDN(ddname3-+----------+-)-‘
‘-,ddname4-‘
>--+---+-------------------
-><| .-NO---------. | ‘-FLASHCOPY--+-YES--------+--+-------------------+-‘
‘-CONSISTENT-‘ ‘-FCCOPYDDN(ddname)-‘ Deadline-spec .-DEADLINE--NONE----------
-----------------. >>-+---+---------
------------------>< ‘-DEADLINE--+-timestamp------------------+-‘ ‘-
labeled-duration-expression-‘ Drain-spec >>-+---------------------+------+---
------------+-------------------------->
‘-DRAIN_WAIT--integer-‘ ‘-RETRY--integer-‘
.-TIMEOUT--TERM--.
>--+---------------------+------+---------------+------------------------>
‘-RETRY_DELAY--integer-‘ ‘-TIMEOUT--ABEND-‘
.-LOGRANGES--YES-. .-DRAIN_ALLPARTS--NO--.
>--+---------------+--+--------------------+-----------------------------
->
‘-LOGRANGES--N0--’ ‘-DRAIN_ALLPARTS--YES-‘
.-SWITCHTIME--NONE---.
>--+---+-><
| .-NEWMAXRO--NONE----. | ‘-SWITCHTIME--+-timestamp------------------+--+---
---------------+-‘ ‘-labeled-duration-expression-‘ ‘-NEWMAXRO--integer-‘
Change-spec: .-MAXRO-------------. .-DRAIN--ALL-----. >>-+-----------------

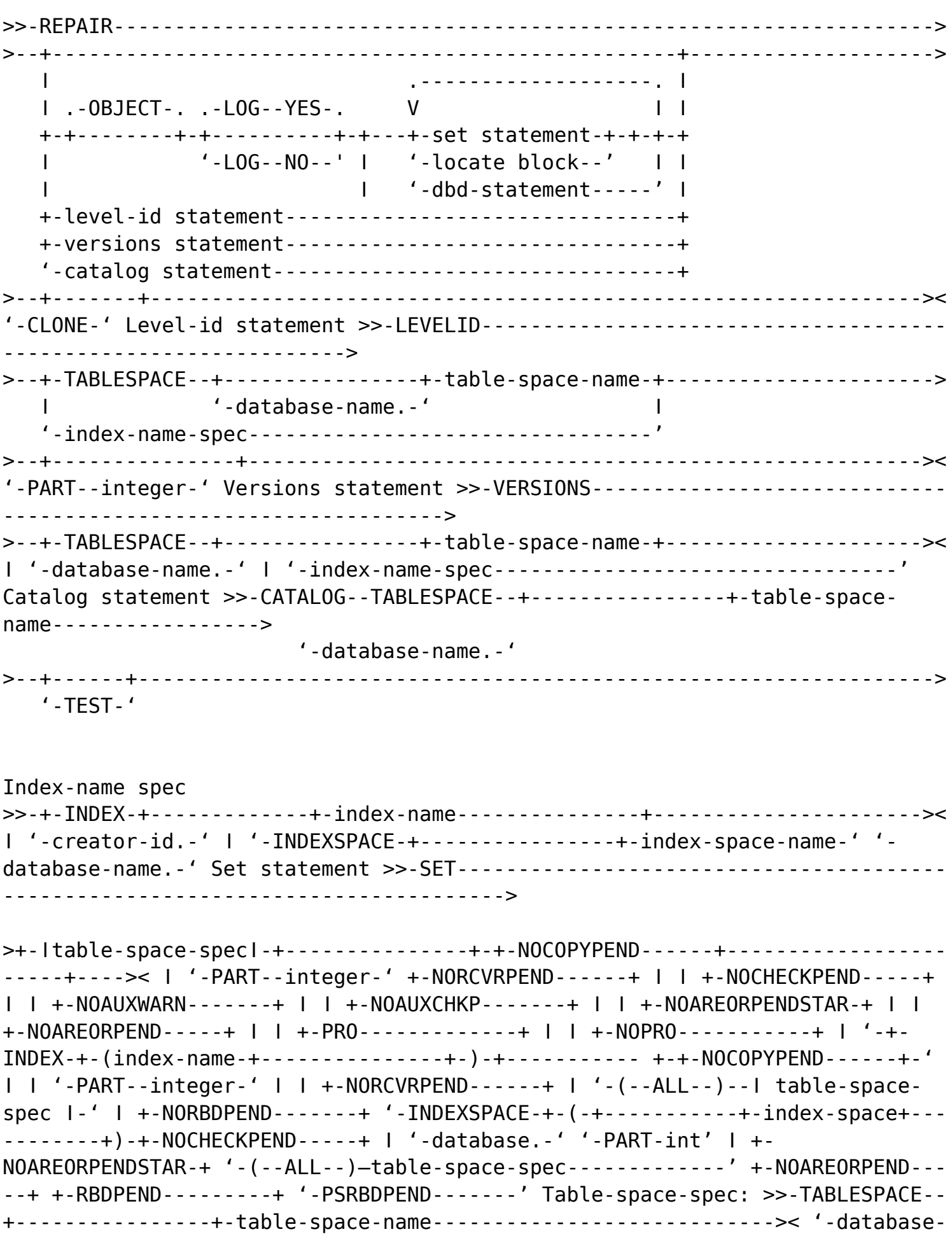

--+--+----------------+----------------------------->
'-MAXRO--+-integer-+-' '-DRAIN--WRITERS-'
'-DEFER---'
.-LONGLOG--CONTINUE--. .-DELAY--1200----.
>--+-------------------+--+---------------+----------------------------->
'-LONGLOG--+-TERM--+-' '-DELAY--integer-'
'-DRAIN-'
Map-spec:
>>-+--------------------------------+-------------------------------------><
+-MAPPINGTABLE--table-name-------+ +-MAPPINGDATABASE--database-name-'
Labelled-duration-expression >>-+-CURRENT_DATE-----------------------------
--------------------------->
'-CURRENT_TIMESTAMP---+----------------+-----'
'-WITH TIME ZONE-'
.--------------------------------------.
V |
>----+- + -+--constant--+-YEAR---------+-+-------------------------------><
+-YEARS--------+ +-MONTH--------+ +-MONTHS-------+ +-DAY----------+ +-DAYS---
------+ +-HOUR---------+ +-HOURS--------+ +-MINUTE-------+ +-MINUTES------+
+-SECOND-------+ +-SECONDS------+ +-MICROSECOND--+ +-MICROSECONDS-+
Statistics-spec >>-STATISTICS--
---------------->
.-TABLE--(--ALL--)-.
>--+-+------------------+--+----------------+---------+-------------------
->
| '-SAMPLE--integer-' |
| .---. |
| V | |
'---TABLE--(--table-name--)--| table-stats-spec |-+-'
.-INDEX--(--ALL--)-.
>--+-+------------------+--| correlation-stats-spec |--------+-------------
->
| .-,-----------------------------------. |
| V | |
'-INDEX--(----index-name--| correlation-stats-spec |-+--)-'
.-REPORT--NO--. .-UPDATE—ALL-------------.
>--+-------------+--+-----------------------+-----------------------------
->
'-REPORT--YES-' '-UPDATE--+-ACCESSPATH-+-'
+-SPACE------+
'-NONE-------'
>--+-----------------------+--+--------------------+------------------


-><
'-HISTORY--+-ALL--------+-'
'-FORCEROLLUP--+-YES-+-'
+-ACCESSPATH-+
'-NO-
-'
+-SPACE------+
'-NONE-------'
Stat-table-spec
.-TABLE--(--ALL--)-.
>>-+-+-
integer-'
'-USE PROFILE-'
'---TABLE--(--table-name--)--+----------+-+-----
-'
'-I table-stats-spec I-'
Table-stats-spec
.-COLUMN--ALL-
. >>-+-
'-SAMPLE--integer-'
.-,----------.
'-COLUMN--(----column-name-+--)-'
>--+-
. I I I V V I I I +---COLGROUP--(----column-name-+--)--I colgroup-stats-spec
I-+-+
'-USE PROFILE-
Colgroup-stats-spec: >>-+-
------>
'-FREQVAL--+-
.-MOST--. I
'-COUNT--integer------+-------+-'
+-BOTH--+
'-LEAST-'
>--+-
NUMQUANTILES--100-----. I
'-HISTOGRAM--+-
NUMQUANTILES--integer-'
Stat-index-spec
.-INDEX--(--ALL--)-. >>-+-+-
--------+--I correlation-stats-spec I--------+-><
.-,-
. I I V I I
'-INDEX--(----index-name--I correlation-stats-
spec I-+--)-'
Correlation-stks-spec:
.-KEYCARD-----. >>-+-
.-FREQVAL--NUMCOLS--1--COUNT—10-
'---FREQVAL--NUMCOLS--integer--+-
.-MOST--. I
'-COUNT--integer-------+-------+-'
+-BOTH--+
'-LEAST-'
.-NUMCOLS--1--NUMQUANTILES—100-
>--HISTOGRAM--+-
.-NUMQUANTILES--100-----. I
.-NUMCOLS--integer--+-
'-NUMQUANTILES--integer-'

FROM-TABLE spec



REPAIR


>>-REPAIR
.-OBJECT-. .-LOG--YES-.
'-LOG--NO--'
'-set statement
'-locate block--'
'-dbd-statement-----'
+-level-id statement
+-versions statement
'-catalog statement
'-CLONE-' Level-id statement >>-LEVELID
>--+-TABLESPACE--+
'-database-name.-'
'-index-name-spec
'-PART--integer-' Versions statement >>-VERSIONS
| '-database-name.-' | '-index-name-spec
Catalog statement >>-CATALOG--TABLESPACE--+
name
'-database-name.-'
'-TEST-'
Index-name spec
>>-+-INDEX-+
| '-creator-id.-' | '-INDEXSPACE-+
database-name.-' Set statement >>-SET
>+-|table-space-spec|-+
'-PART--integer-' +-NORCVRPEND------+
+-NOAUXWARN-------+
+-NOAREORPEND-----+
INDEX-+-(index-name-+
'-PART--integer-'
spec |-'
NOAREORPENDSTAR-+ '-(--ALL--)—table-space-spec-------------' +-NOAREORPEND-----+ +-RBDPEND---------+ '-PSRBDPEND-------' Table-space-spec: >>-TABLESPACE--+
name-------------------------><
'-database-

name.-‘

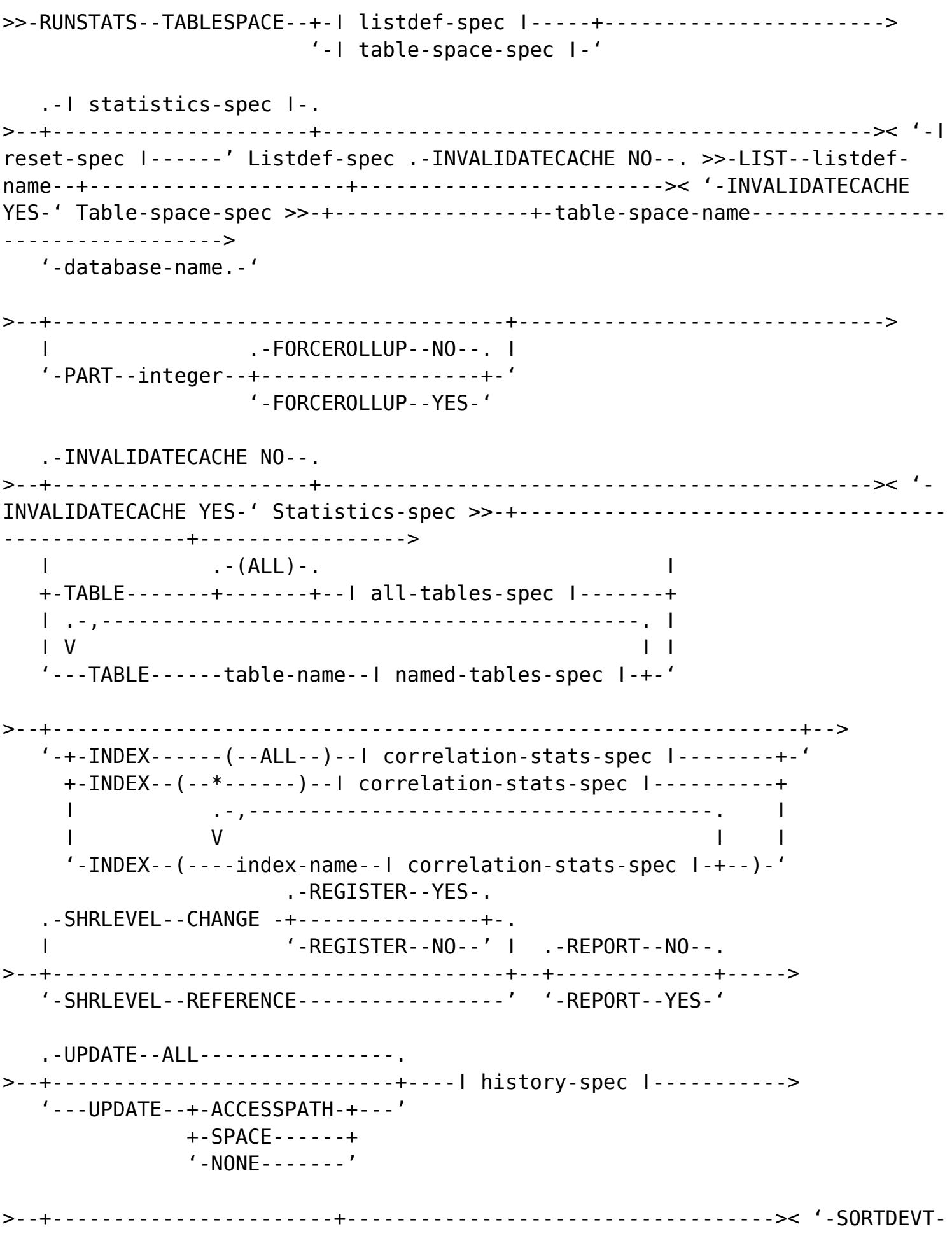
REPORT

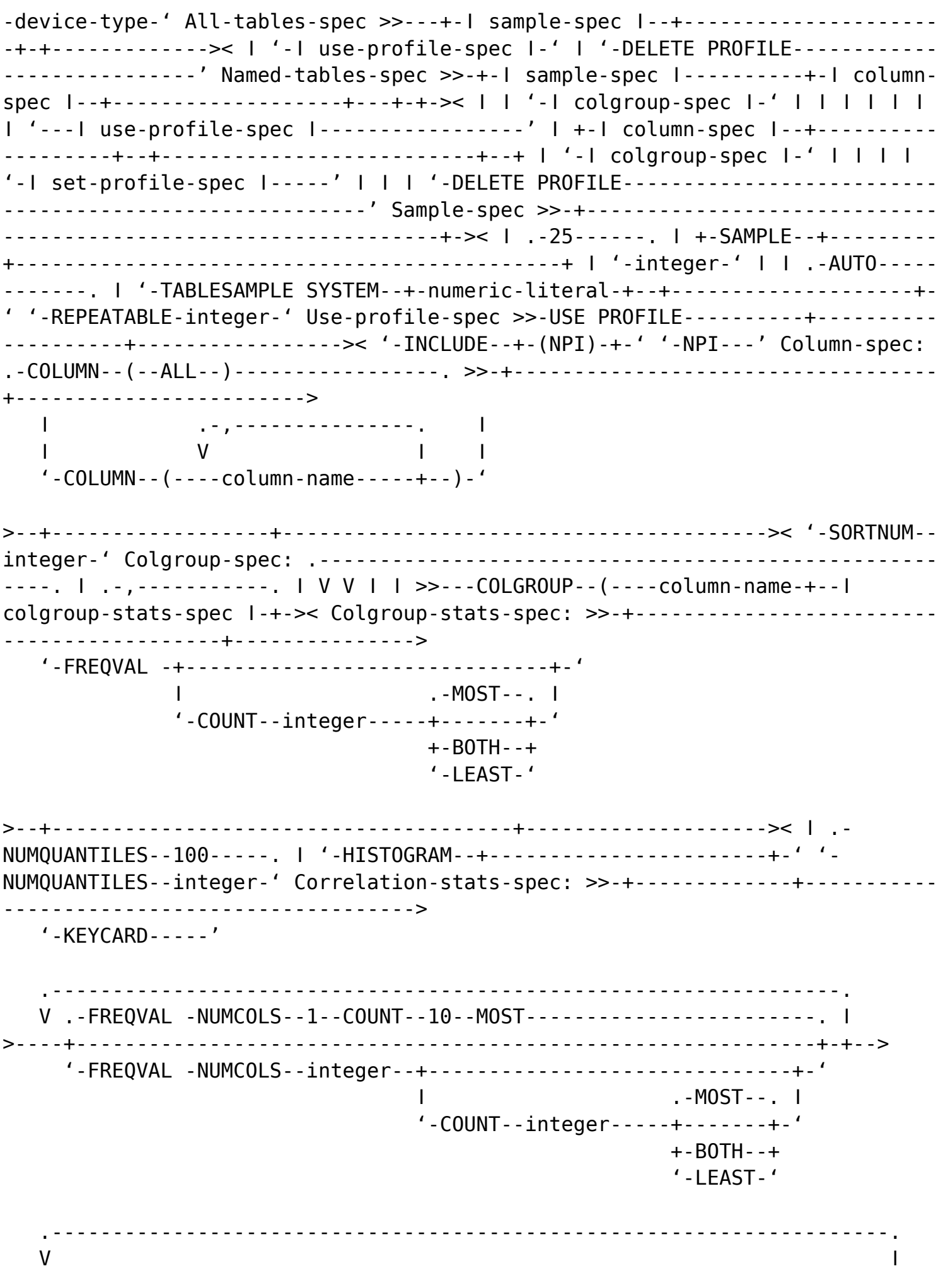
```
>>-REPORT------------------------------------------------------------------------>
                                                      .-INDEX NONE-.
>-+-RECOVERY-+-TABLESPACE+-LIST-listdef-name---+-+-----------+-+-+----+-+--><
| | ‘-tablespace-name-spec’ ‘-INDEX ALL-‘ | ‘info’ | | ‘-index-list-spec-----
----------------------------’ | ‘-TABLESPACESET--+------------+--table-space-
name-spec--+----------+--’ ‘-TABLESPACE-‘ ‘-SHOWDSNS-‘ Index-list-spec >>-+-
INDEXSPACE--+-+---------------+-index-space-name-+-+----------------->< | |
‘-database-name.-‘ | | | ‘-LIST—listdef-name------------------’ | ‘-INDEX--
+-+-------------+-index-name-+--------------’ | ‘-creator-id.-‘ | ‘-LIST--
listdef-name---------’ Info-options .-DSNUM--ALL-----. >>-+---------------+-
-+---------+--+---------+--------------------------->
   ‘-DSNUM--integer-‘  ‘-CURRENT-‘  ‘-SUMMARY-‘
                                    .-ARCHLOG--1-------.
>--+-----------+--+-------------+--+-----------------+------------------><
‘-LOCALSITE-‘ ‘-RECOVERYSITE-‘ ‘-ARCHLOG--+-2---+-‘ ‘-ALL-‘ Table-space-name-
spec >>-+---------------+--table-space-name--------------------------------
--->< ‘-database-name.-‘
```

RESTORE SYSTEM

```
>>-RESTORE SYSTEM----------------------------------------------------------->
>--+-| non-LOGONLY spec |-------------------------------------+-------><‘-
LOGONLY--+-------------------------------------------------+-‘ ‘-SWITCH VCAT--
+------------------------+-‘ ‘-SYSVALUEDDN(ddname)-‘ Non-LOGONLY spec >>-+-
-----------------------+------------------------------------------>
   ‘-ALTERNATE_CP(copy-pool)-‘
>--+-------------------------------+----------------------------------->
   ‘-RESTOREBEFORE-- X’byte-string’-‘
>-+-------------------------------------------------------------------+->
  +-FROMDUMP-+----------------++----------------++------------------+-+
  |          ‘-DUMPCLASS-(dcl)-’’-RSA-(key-label)-’’—TAPEUNITS-+-------+-‘
  |                                                           ‘units’   |
  ‘-FLASHCOPY_PPRCP--+-NO-----+-----------------------------------------’
                     +-PMNO---+
                     +-PMPREF-+
                     ‘-PMREQ —‘
```

RUNSTATS


>>-RUNSTATS--TABLESPACE--+-I listdef-spec I-----+---------->
'-I table-space-spec I-'
.-I statistics-spec I-.
>--+--------+-----><
reset-spec I------' Listdef-spec .-INVALIDATECACHE NO--. >>-LIST--listdef-
name--+--------+-----><
YES-' Table-space-spec >>-+--------+-table-space-name--------
---------->
'-database-name.-'
>--+--------+---------->
.-FORCEROLLUP--NO--. I
'-PART--integer--+--------+-'
'-FORCEROLLUP--YES-'
.-INVALIDATECACHE NO--.
>--+--------+-----><
INVALIDATECACHE YES-' Statistics-spec >>-+--------
--------+---------->
.-(ALL)-.
+-TABLE-------+-------+--I all-tables-spec I-------+
.-,--------. I
V I I
'---TABLE------table-name--I named-tables-spec I-+-'
>--+--------+-->
'-+-INDEX------(--ALL--)--I correlation-stats-spec I--------+-'
+-INDEX--(--*------)--I correlation-stats-spec I----------+
.-,--------. I
V I I
'-INDEX--(----index-name--I correlation-stats-spec I-+--)-'
.-REGISTER--YES-.
.-SHRLEVEL--CHANGE -+--------+-.
'-REGISTER--NO--' I .-REPORT--NO--.
>--+--------+--+--------+----->
'-SHRLEVEL--REFERENCE--------' '-REPORT--YES-'
.-UPDATE--ALL--------.
>--+--------+----I history-spec I---------->
'---UPDATE--+-ACCESSPATH-+---'
+-SPACE------+
'-NONE-------'
>--+--------+---------><
'-SORTDEVT-

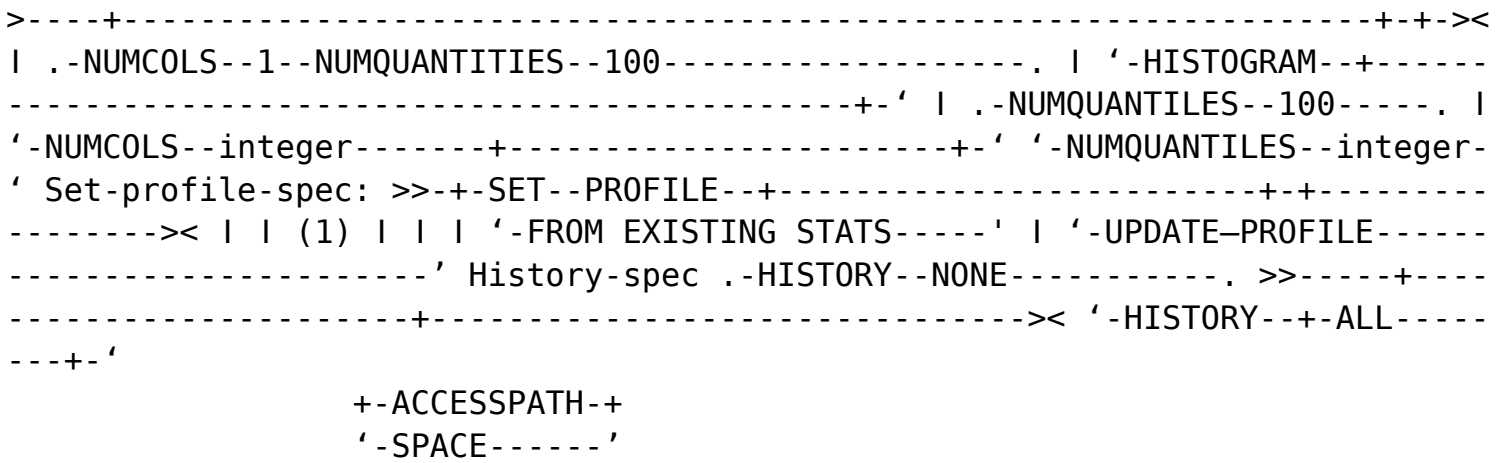

-device-type-‘ All-tables-spec >>---+-I sample-spec I--+-------------------
-+-+------------>< I ‘-I use-profile-spec I-‘ I ‘-DELETE PROFILE-----------
---------------’ Named-tables-spec >>-+-I sample-spec I----------+-I column-
spec I--+------------------+---+-+->< I I ‘-I colgroup-spec I-‘ I I I I I I
I ‘---I use-profile-spec I----------------’ I +-I column-spec I--+----------
---------+--+-------------------------+--+ I ‘-I colgroup-spec I-‘ I I I I
‘-I set-profile-spec I-----’ I I I ‘-DELETE PROFILE-------------------------
-----------------------------’ Sample-spec >>-+----------------------------
-----------------------------------+->< I .-25------. I +-SAMPLE--+---------
+---+ I ‘-integer-‘ I I .-AUTO-----
-------. I ‘-TABLESAMPLE SYSTEM--+-numeric-literal-+--+-------------------+-
‘ ‘-REPEATABLE-integer-‘ Use-profile-spec >>-USE PROFILE----------+----------
----------+----------------->< ‘-INCLUDE--+-(NPI)-+-‘ ‘-NPI---’ Column-spec:
.-COLUMN--(--ALL--)-----------------. >>-+---------------------------------
+------------------------>
   I   .-,---------------.   I
   I   V   I   I
   ‘-COLUMN--(----column-name-----+--)-‘

>--+-----------------+--->< ‘-SORTNUM--
integer-‘ Colgroup-spec: .---
----. I .-,-----------. I V V I I >>---COLGROUP--(----column-name-+--I
colgroup-stats-spec I-+->< Colgroup-stats-spec: >>-+-----------------------
-----------------+--------------->
   ‘-FREQVAL -+-----------------------------+-‘
              I   .-MOST--. I
              ‘-COUNT--integer-----+-------+-‘
                                   +-BOTH--+
                                   ‘-LEAST-‘

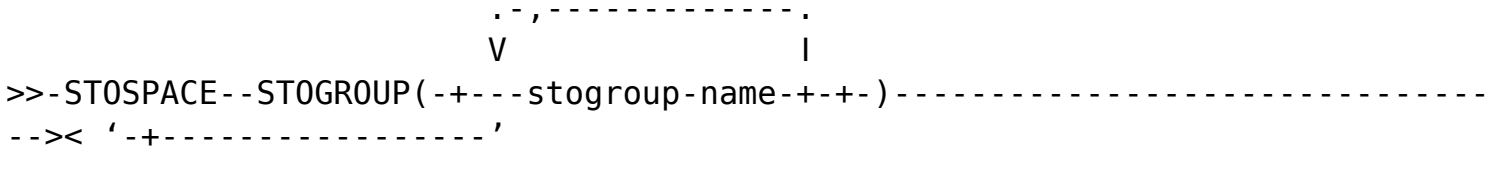
>--+-------------------------------------+------------------->< I .-
NUMQUANTILES--100-----. I ‘-HISTOGRAM--+-----------------------+-‘ ‘-
NUMQUANTILES--integer-‘ Correlation-stats-spec: >>-+-------------+-----------
---------------------------------->
   ‘-KEYCARD-----’

   .---.
   V .-FREQVAL -NUMCOLS--1--COUNT--10--MOST-----------------------. I
>----+---+-+-->
     ‘-FREQVAL -NUMCOLS--integer--+-----------------------------+-‘
                                  I   .-MOST--. I
                                  ‘-COUNT--integer-----+-------+-‘
                                                       +-BOTH--+
                                                       ‘-LEAST-‘

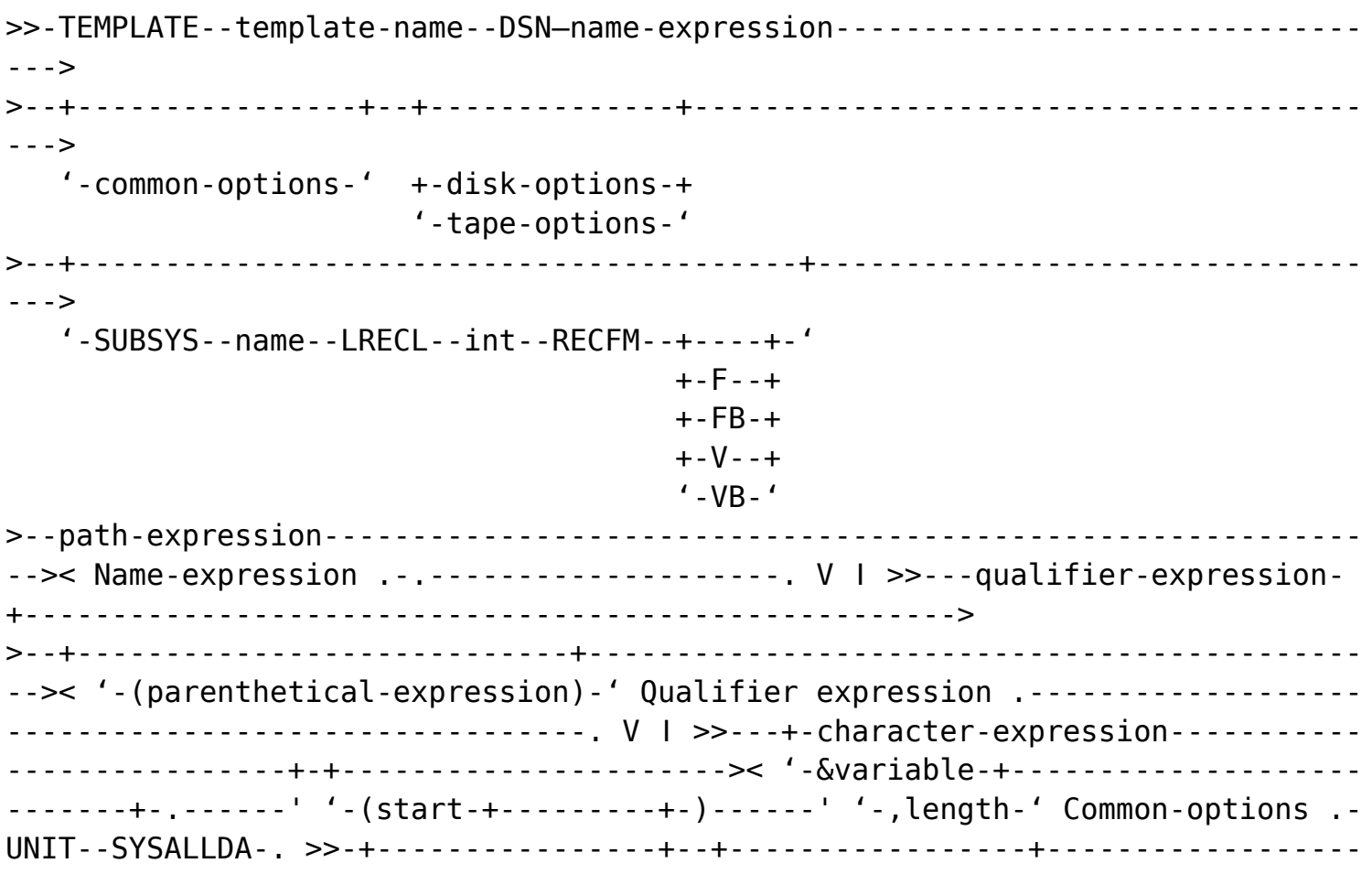
   .---.
   V   I

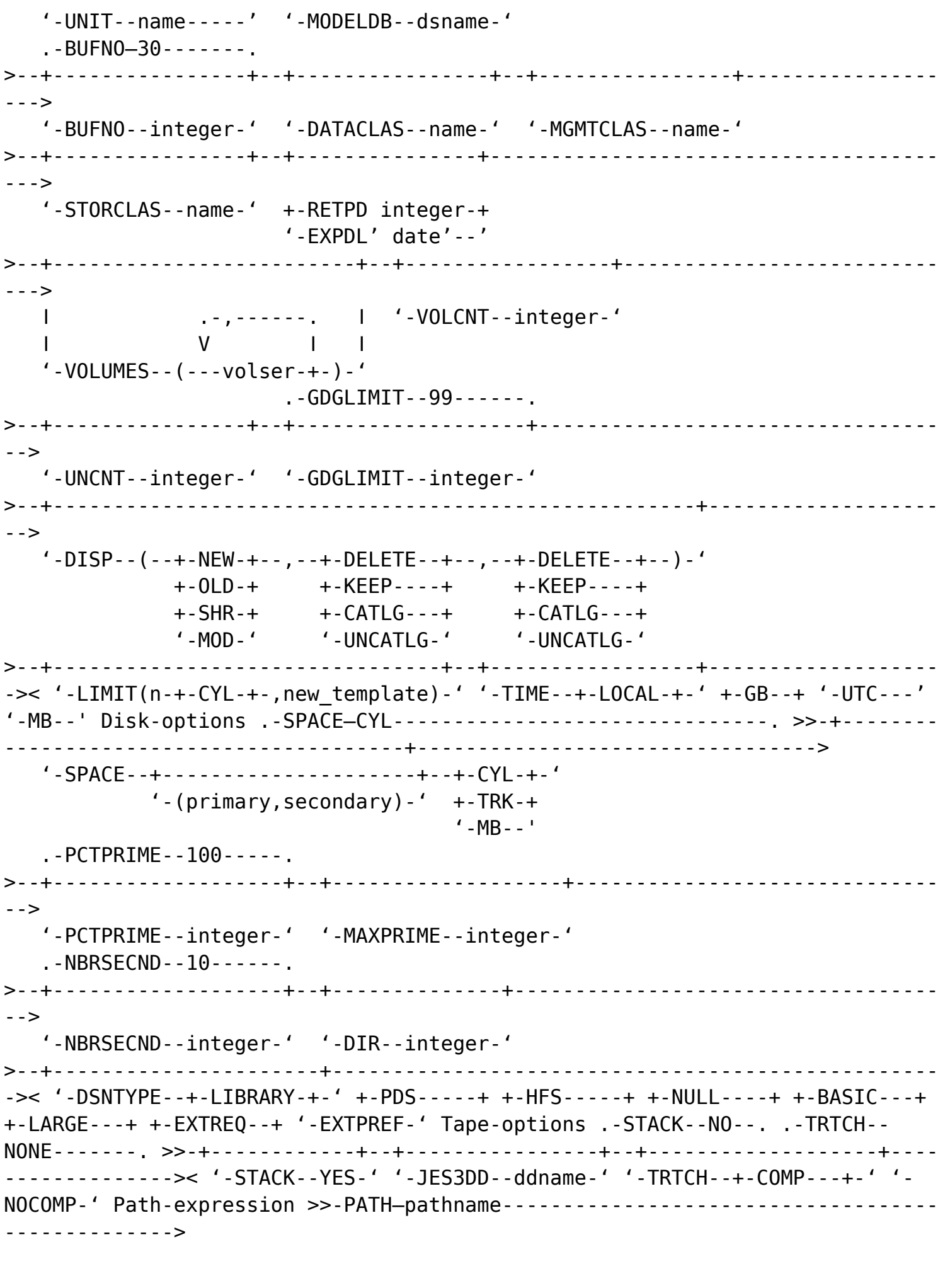


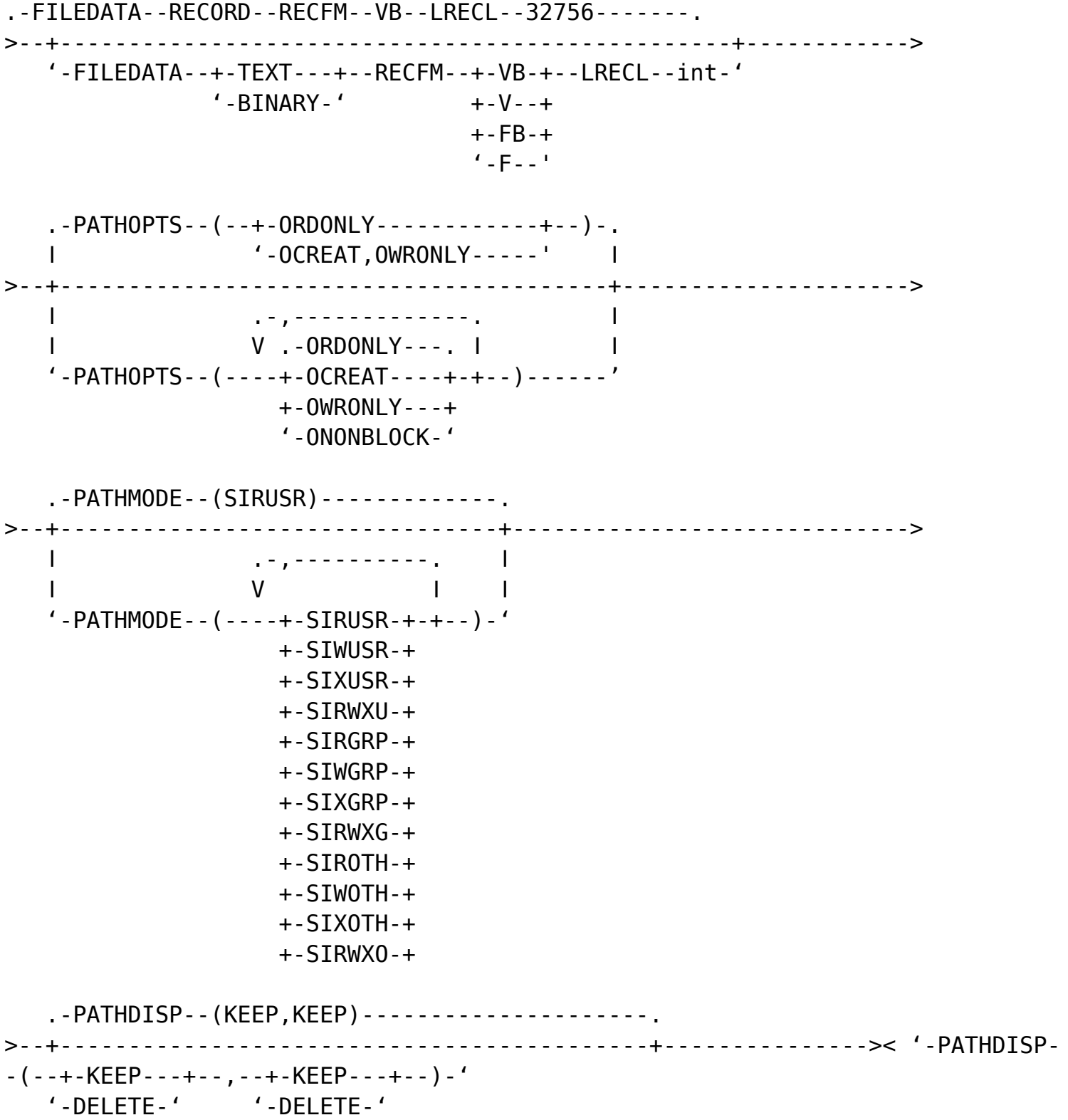
STOSPACE



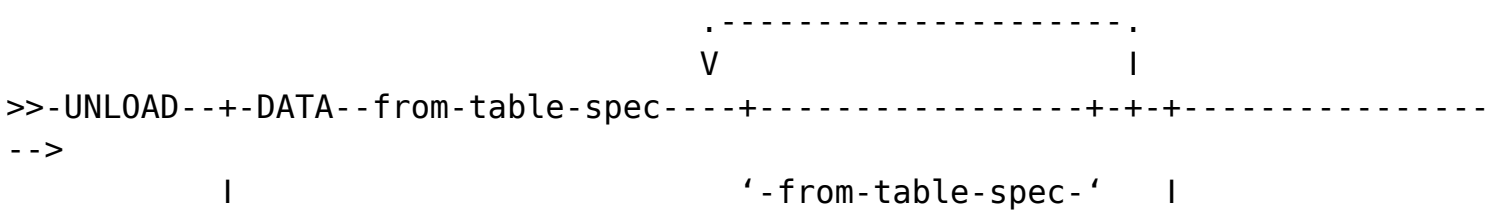
TEMPLATE




'-UNIT--name-----' '-MODELDB--dsname-'
.-BUFNO—30-------.
'-BUFNO--integer-' '-DATACLAS--name-' '-MGMTCLAS--name-'
'-STORCLAS--name-' +-RETPD integer-+
'-EXPDL' date'--'
'-VOLCNT--integer-'
'-VOLUMES--(---volser-+-)-'
.-GDGLIMIT--99------.
'-UNCNT--integer-' '-GDGLIMIT--integer-'
'-DISP--(--+-NEW-+--,--+-DELETE--+--,--+-DELETE--+--)-'
+-OLD-+ +-KEEP----+ +-KEEP----+
+-SHR-+ +-CATLG---+ +-CATLG---+
'-MOD-' '-UNCATLG-' '-UNCATLG-'
'-LIMIT(n-+-CYL-+-,new_template)-' '-TIME--+-LOCAL-+-' +-GB--+ '-UTC---'
'-MB--' Disk-options .-SPACE—CYL-------------------------------. >>-+--------
'-SPACE--+--------------------+--+-CYL-+-'
'-(primary,secondary)-' +-TRK-+
'-MB--'
.-PCTPRIME--100-----.
'-PCTPRIME--integer-' '-MAXPRIME--integer-'
.-NBRSECND--10------.
'-NBRSECND--integer-' '-DIR--integer-'
->< '-DSNTYPE--+-LIBRARY-+-' +-PDS-----+ +-HFS-----+ +-NULL----+ +-BASIC---+
+-LARGE---+ +-EXTREQ--+ '-EXTPREF-' Tape-options .-STACK--NO--. .-TRTCH--
NONE-------. >>-+------------+--+----------------+--+------------------+----
------------->< '-STACK--YES-' '-JES3DD--ddname-' '-TRTCH--+-COMP---+-' '-
NOCOMP-' Path-expression >>-PATH—pathname-----------------------------------
------------>

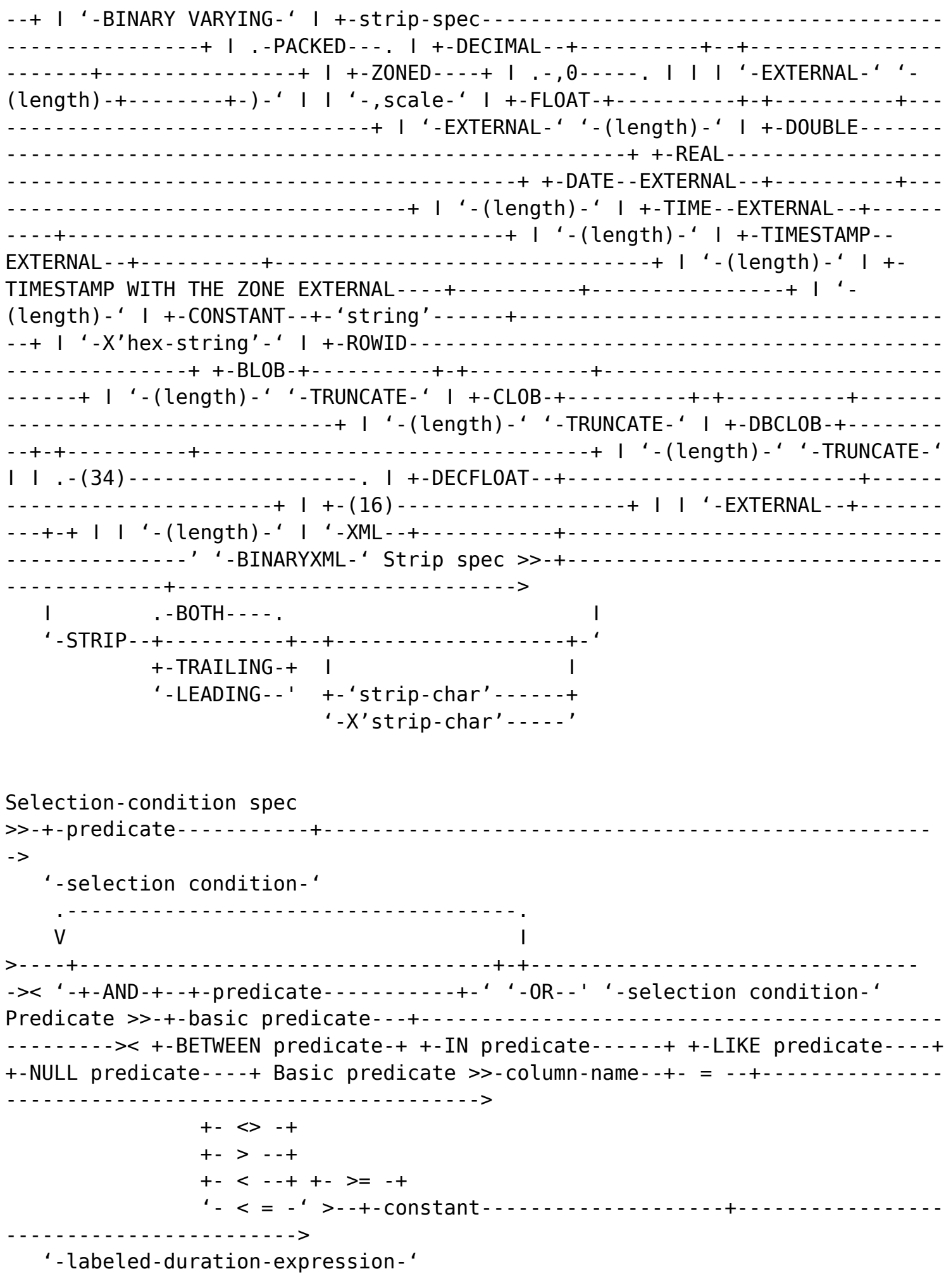

.-FILEDATA--RECORD--RECFM--VB--LRECL--32756-------.
>--+---+----------->
'-FILEDATA--+-TEXT---+--RECFM--+-VB-+--LRECL--int-'
'-BINARY-' +-V--+
+-FB-+
'-F--'
.-PATHOPTS--(--+-ORDONLY-----------+--)-.
'-OCREAT,OWRONLY-----' |
>--+---------------------------------------+--------------------->
.-,-------------. |
V .-ORDONLY---. | |
'-PATHOPTS--(----+-OCREAT----+-+--)------'
+-OWRONLY---+
'-ONONBLOCK-'
.-PATHMODE--(SIRUSR)-------------.
>--+-------------------------------+------------------------------>
.-,----------. |
V | |
'-PATHMODE--(----+-SIRUSR-+-+--)-'
+-SIWUSR-+
+-SIXUSR-+
+-SIRWXU-+
+-SIRGRP-+
+-SIWGRP-+
+-SIXGRP-+
+-SIRWXG-+
+-SIROTH-+
+-SIWOTH-+
+-SIXOTH-+
+-SIRWXO-+
.-PATHDISP--(KEEP,KEEP)---------------------.
>--+---+--------------><
'-PATHDISP--(--+-KEEP---+--,--+-KEEP---+--)-'
'-DELETE-' '-DELETE-'

UNLOAD

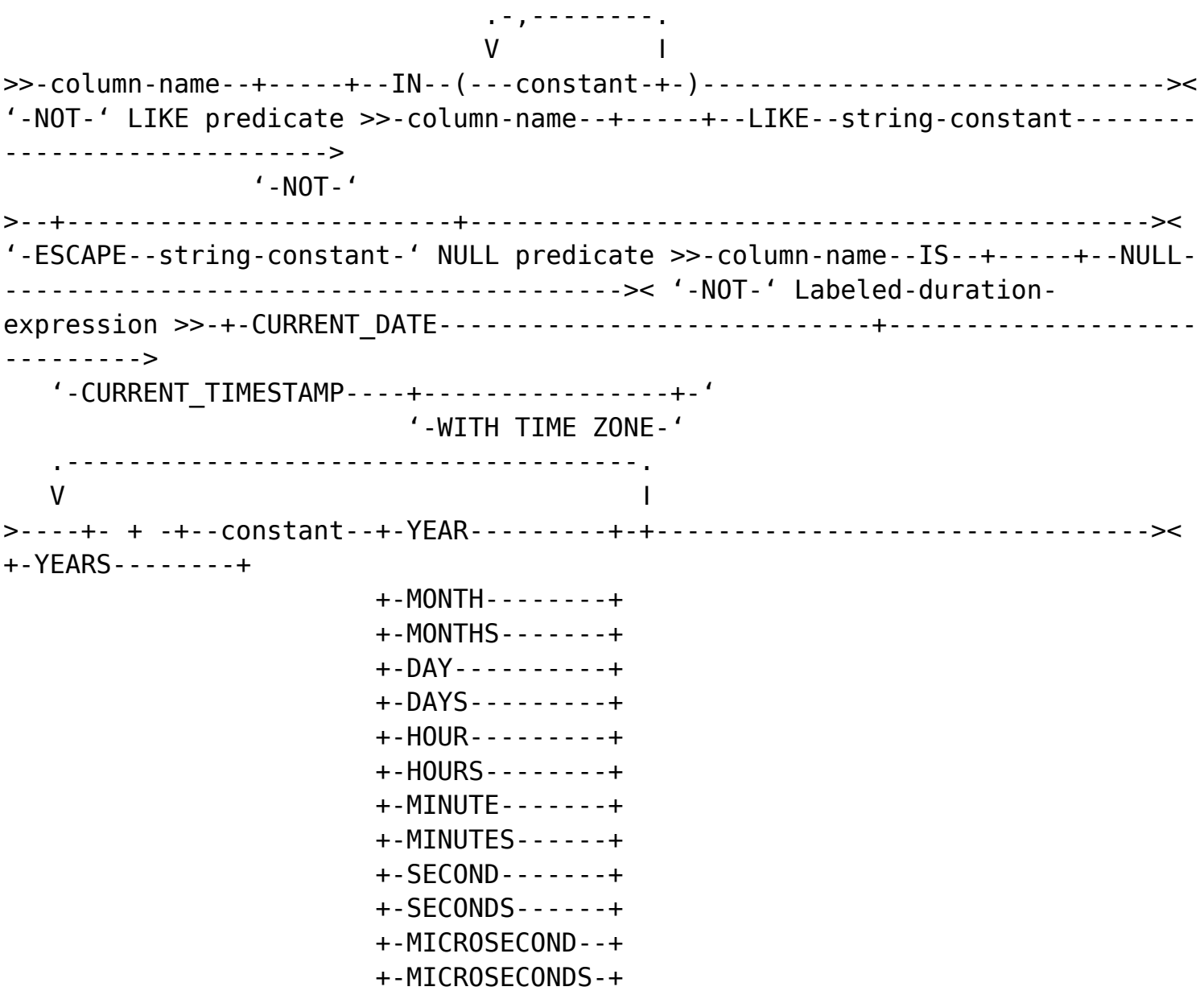

.---------------------.
V |
>>-UNLOAD--+-DATA--from-table-spec----+----------------+-+-+----------------
-->
| '-from-table-spec-' |

.-------------------.
V
+-source-spec----+----------------+-+----------+
‘-from-table-spec-‘
‘-LIST--listdef-name----------’
>--unload-spec--+------+---
-><
‘-CLONE-‘ Source-spec >>-TABLESPACE--+---------------+-tablespace-name--
----------->
‘-database-name.-‘
>--+----------------------+---
-->
|-PART-+-integer-------+-‘
‘-int1--:--int2-‘
>-+---+-><
+-FROMCOPY--data-set-name-+---+-+
‘-FROMVOLUME-+-CATALOG----------------+-‘
‘-vol-ser--+-------------+-‘
‘-FROMSEQNO--n-‘
‘-FROMCOPYDDN--ddname----------
Unload-spec .-PUNCHDDN--SYSPUNCH----------. >>-+----------
+--->
‘-PUNCHDDN--+-ddname--------+-‘
‘-template-name-‘
.-UNLDDN--SYSREC------------.
>--+--------------------------+--+---------+-------------------------------
-->
‘-UNLDDN--+-ddname--------+-+
‘-template-name-‘
+-EBCDIC--+
+-ASCII---+
‘-UNICODE-‘
‘-SPANNED NO--'
>--+---------------------+--+--------+--+-------+----+-------------+--------
->
.-,-------.
V
‘-CCSID(---integer-+-)-‘
‘-NOSUBS-‘
‘-NOPAD-‘
‘-SPANNED YES-‘
>+---+-->
.-COLDEL--‘,’----.
‘-DELIMITED--+---------------+--+-----------------+--+-------------+-‘
‘-COLDEL--coldel-‘
.-FLOAT--S390-.
‘-FLOAT--IEEE-‘
.-MAXERR--1-------.
‘-MAXERR--integer-‘
>--+-------------+--+----------------+-----------------------------------
.-SHRLEVEL--CHANGE--ISOLATION--CS--+-----------------+-.
‘-SKIP LOCKED DATA-‘
>--+---+---------------
‘-SHRLEVEL-+-CHANGE--ISOLATION-UR-+-------------------’
>-+-----------------------------------+-+---------------------------+-->
.-’”’-----.
‘-CHARDEL--chardel-‘
.-DECPT--‘.’---.
‘-DECPT--decpt-‘

'-DECFLOAT_ROUNDMODE-+-ROUND_CEILING---' '-IMPLICIT_TZ-timezone-string-'
+-ROUND_DOWN------+
+-ROUND_FLOOR-----+
+-ROUND_HALF_DOWN-+
+-ROUND_HALF_EVEN-+
+-ROUND_HALF_UP---+
+-ROUND_UP--------+
>--+-------------------------------+-----------------------------------
->
'-IMPLICIT_TZ--'timezone-string'-'
.-PARALLEL--0-----------.
>--+-----------------------+---
-><'-PARALLEL—num-subtasks-' From-table spec >>-FROM--TABLE--table-name-----
-->
.-HEADER--OBID------------------------.
>--+-------------------------------------+---------------------------------
->
'-HEADER--+-NONE--------------------+-'
'-CONST--+-'string'------+-'
'-X'hex-string'-'
>--+-----------------+--+---------------+---------------------------------
->
'-SAMPLE--decimal-' '-LIMIT--integer-'
>--+-----------------------------+---
->
| .-,------------------. |
| V | |
'-(---field-specification-+-)-'
>--+-----------------------------+---
-><'-WHEN--(selection-condition)-' Field spec .-POSITION(*)-----. >>-field-
name--+-----------------+-->
'-POSITION(start)-'
>--+---+---><
+-CHAR-+----------+-+---+-+ | '-
(length)-' +-TRUNCATE-----------------------------------+ | | '-+-BLOBF---+--
template-name---+-----------+ | | +-CLOBF---+ '-BINARYXML-' | | '-DBCLOBF-' |
+-VARCHAR-+----------+-+---+-+ | '-
(length)-' +-strip-spec----------------------------+ | | '-+-BLOBF---+-
template-name-+-----------+ | | +-CLOBF---+ '-BINARYXML-' | | '-DBCLOBF-' |
+-GRAPHIC-+----------+-+----------+-+----------+-----------------+ | '-
EXTERNAL-' '-(length)-' '-TRUNCATE-' | +-VARGRAPHIC-+----------+-strip-spec--
--------------------------+ | '-(length)-' | +-SMALLINT-------------------
-----------------------------------+ +-INTEGER--+----------------------+---
--------------------------+ | '-EXTERNAL-+----------+-' | | '-(length)-' |
+-BIGINT---+ +-BINARY-
+----------+-+----------+-------------------------------+ | '-(length)-' '-
TRUNCATE-' | +-+-VARBINARY------+---


--+ | '-BINARY VARYING-' | +-strip-spec----------
----------+ | .-PACKED---. | +-DECIMAL--+----------+--+----------
-------+----------+ | +-ZONED----+ | .-,0-----. | | | '-EXTERNAL-' '-
(length)-+--------+-)-' | | '-,scale-' | +-FLOAT-+----------+-+----------+---
----------+ | '-EXTERNAL-' '-(length)-' | +-DOUBLE-------
----------+ +-REAL----------
----------+ +-DATE--EXTERNAL--+----------+---
----------+ | '-(length)-' | +-TIME--EXTERNAL--+------
----+----------+ | '-(length)-' | +-TIMESTAMP--
EXTERNAL--+----------+----------+ | '-(length)-' | +-
TIMESTAMP WITH THE ZONE EXTERNAL----+----------+----------+ | '-
(length)-' | +-CONSTANT--+-'string'------+----------
--+ | '-X'hex-string'-' | +-ROWID----------
----------+ +-BLOB-+----------+-+----------+----------
------+ | '-(length)-' '-TRUNCATE-' | +-CLOB-+----------+-+----------+-------
----------+ | '-(length)-' '-TRUNCATE-' | +-DBCLOB-+--------
--+-+----------+----------+ | '-(length)-' '-TRUNCATE-'
| | .-(34)----------. | +-DECFLOAT--+----------+------
----------+ | +-(16)----------+ | | '-EXTERNAL--+-------
---+-+ | | '-(length)-' | '-XML--+----------+----------
----------' '-BINARYXML-' Strip spec >>-+----------
----------+---------->
| .-BOTH----. |
'-STRIP--+----------+--+----------+-'
+-TRAILING-+ | |
'-LEADING--' +-'strip-char'------+
'-X'strip-char'-----'
Selection-condition spec
>>-+-predicate----------+----------
->
'-selection condition-'
.----------.
V |
>----+----------+-+----------
->< '-+-AND-+--+-predicate----------+-' '-OR--' '-selection condition-'
Predicate >>-+-basic predicate---+----------
---------><
+-BETWEEN predicate-+
+-IN predicate------+
+-LIKE predicate----+
+-NULL predicate----+
Basic predicate >>-column-name--+- = --+----------
---------->
+- <> -+
+- > --+
+- < --+ +- >= -+
'- < = -' >--+-constant----------+----------
---------->
'-labeled-duration-expression-'

IN predicate



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