

IBM UTILITIES IN DB2 12



BACKUP SYSTEM

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

>+-----+-----+-----+-----+-----+-----+----->
  +--ALTERNATE_CP (copy-pool)-+-----+-----+-----+-----+
                                '-DBBSG(stogroup)-'  '-LGBSG(stogroup-'

>+-----+-----+-----+-----+-----+-----+-----><
+--FORCE-----+-----+-----+-----+-----+-----+-----+
-----+-----+-----+-----+-----+ | '- dumpclass-spec---+ '-
FORCE-' | '-DUMPNONLY--+-----+-----+-----+-----+' '-
TOKEN- (X'byte-string')' '- dumpclass-spec -' dumpclass-spec: >--DUMPCCLASS-(-
-dc1---)------+-----+-----+-----+-----+----->< | -dc2- |
                | -dc3- |
                | -dc4- |
                | -dc5- |
```



```

                                                    '-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-----
| '-,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-----+ +
FROMLASTINRCOPY-----+ +
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+-----+-----+-----+
->< | '-database-name.-' +-ALL-----+ '-CLONE-' | | +-TABLES--+ | | '-
INDEXES-' | +-SYSUTIL-----
---+ +-MEPL-----+ +
AVAILABLE-----+ '-DBET+
DATABASE--database-name-----+-----+-----+ '-TABLESPACE+
-----+table-space-name+ '-CLONE-' | '-database-name.-' | '-INDEX--
index-name-----' Wait-statement: .-----
-----, V | >>-WAIT----+MESSAGE--message-id--+
-----+-----+----->< | '-INSTANCE--integer-' | '-
TRACEID--+X'trace-id'+-----+-----+ '-integer-----' '-INSTANCE-
-integer-' Abend-statement: >>-ABEND--+MESSAGE--message-id--+
-----+-----+----->< | '-INSTANCE--integer-'
| '-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           I
>>-LISTDEF--list-name-----list-options-----
->

```

List-options:

```

>+INCLUDE+-----+LIST-ref-list+-----+-----+
+>
  'EXCLUDE' |           | '-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-'

>+-----+-----+-----+-----+-----+-----+-----+----->
'-RBALRSN_CONVERSION-+-NONE-----+'
          +-BASIC-----+
          '-EXTENDED-'

>-| flashcopy-spec |--+-----+-----+-----+-----+----->
          '-KEEPDICTIONARY-' '-REUSE-'

. -LOG--YES-----
>+-----+-----+-----+-----+-----+-----+-----+----->
'-LOG--NO-+-----+-----+'
          '-NOCOPYPEND-'

(1)

. -SORTKEYS--0----- . -FLOAT(S390)-
>+-----+-----+-----+-----+-----+-----+-----+----->
+-SORTKEYS--NO-----+          '-FLOAT(IEEE)-'
'-SORTKEYS--integer-'

```



```

.-EBCDIC-.
>+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+----->
+-ASCII---+ |           ,-----, | '-NOSUBS-'
'-UNICODE-' |           V           | |
              '-CCSID(---integer+-)-'

.-ENFORCE-CONSTRAINTS-. .-ERRDDN--SYSERR-.
>+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+----->
'-ENFORCE--NO-----' '-ERRDDN--ddname-'

.-MAPDDN--SYSMAP-. .-DISCARDN--SYSDISC-.
>+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+----->
'-MAPDDN--ddname-' '-DISCARDN--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--'-----
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+----->
BACKOUT--+-----+-' Labelled-duration-expression >>+-----CURRENT_DATE-----

```

```

-----+----->
'-CURRENT_TIMESTAMP--+'
'-WITH TIME ZONE-'

.-----
V                                     I
>-----+ + -+- constant--+-YEAR-----+----->< '- - -' +
YEARS-----+ +MONTH-----+ +MONTHS-----+ +DAY-----+ +DAYS-----
-----+ +HOUR-----+ +HOURS-----+ +MINUTE-----+ +MINUTES-----+ +
SECOND-----+ +SECONDS-----+ +MICROSECOND-- + +MICROSECONDS-- Workddn-
spec: .-WORKDDN(SYSUT1, SORTOUT)----- . >>+-----
-----+----->
'-WORKDDN--+- (ddname1, ddname2)-----+-'
|           .-, SORTOUT-. |
+- (ddname1+-+-----+-) +-
| .-SYSUT1-. |
'- (-+-----+-, ddname2)--'

Copy-spec:
>>+-----+----->
| .- (SYSCOPY)----- . |
'-COPYDDN--+-+-----+-----+'
+- (ddname1+-+-----+-) +-
|           '-, ddname2-' |
'- (, 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-- .-UPDATE--ALL-----
>+-----+-----+-----+----->
'-REPORT--YES-' '-UPDATE--+-ACCESSPATH--+'
+-SPACE-----+
+-NONE-----+
.-INVALIDATECACHE--NO--
>+-----+-----+-----+----->
'-INVALIDATECACHE YES-' '-HISTORY--+-ALL-----+-'
+-ACCESSPATH--
+-SPACE-----+
'-NONE-----'

```



```

-----+ +-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+-----
-----++
      |                                     |
DISCARDN-ddname-' |                                     '-INCURSOR--cursor-name-----
-----'
>+-----+-----+-----+-----+-----+-----+-----+-----+-----
----->
      '-NUMRECS-integer-' '-WHEN--SQL/DS='table-name'-----+-'
      '-field selection criterion-'

>+-----+-----+-----+-----+-----+-----+-----+-----+-----
----->< | .,-----, | | V | | '-(---field specification+)-'
>+-----+-----+-----+-----+-----+-----+-----+-----+-----
->< | .,-----, | | V | | '-(---field specification+)-'
Resume-spec: .-RESUME--NO-----, >>--+-----+-----+-----+-----+-----
-----+----->

```

```
|          '-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+-----+-----+strip-spec+-----+-----+
-----+
|           '-EXTERNAL-' '-(length)-'           '-CCSID 1200-'
|
+-VARGRAPHIC--strip-spec-------+-----+-----+-----+
-----+
|           '-CCSID 1200-'
|
+-SMALLINT-----+-----+-----+-----+-----+
-----+
+-INTEGER+-----+-----+-----+-----+-----+
-----+
|           '-EXTERNAL+-----+-----+'
|
|           .-(length)-'
|
+-BIGINT-----+-----+-----+-----+-----+
-----+
+-BINARY+-----+strip-spec-----+-----+-----+
-----+
|           '-(length)-'
|
+-+VARBINARY-----+strip-spec-----+-----+-----+
-----+
| '-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-'

>----->< +-NULLIF--
field selection criterion----+ '-DEFAULTIF--field selection criterion-' Field
name spec: >>-field-name--+-----+-----+-----+-----+
-->< +-POSITION(start+-----+)------+ | '-:end-' | '-CONSTANT(--
'string'-----+)-' +-X'hex-string'-----+ +-integer-----+ +-CURRENT
DATE-----+ +-CURRENT TIME-----+ +-CURRENT TIMESTAMP+ '-NULL-----'
Strip-spec: >>+-----+-----+-----+-----+
----->
|          .-BOTH ----, |
'-STRIP+-----+-----+-----+-----+'

```

```
+-TRAILING-+ | (1) |
+-LEADING--' +- 'strip-char'-----+
              +-X'strip-char'-----'

>+-----+----->< '-
TRUNCATE-' Decimal-spec: .-PACKED-----, >>-DECIMAL-+-
-----+----->< +-ZONED-----
-----+
      '-EXTERNAL-+------+-'
              | .-,0----- |
              '-(length-+------+)-'
                '-,scale-'
```

MERGECOPY

```
>>-MERGECOPY-----
->
>+--LIST--listdef-name-----+
->
      | .-DSNUM--ALL----- |
      '-TABLESPACE-+------+table-space-name-+------+
              '-database-name.-' '-DSNUM--integer-'
      .-WORKDDN--SYSUT1-.

>+-----+-----+-----+-----><
->
      '-CLONE-' '-WORKDDN--ddname-'
      .-NEWCOPY--NO-. .-COPYDDN--SYSCOPY-----

>+-----+-----+-----+-----><
| + COPYDDN(ddname1-+------+)------+ |
| | | '-,ddname2-' | | |
| | + COPYDDN(,ddname2)-----+ |
| | '-RECOVERYDDN(ddname3-+------+)-' |
| | | '|,ddname4' | |
| | .-COPYDDN--SYSCOPY----- |
| '-NEWCOPY-YES-+------+-----+-----+
| + COPYDDN(ddname1-+------+)-+ '-RECOVERYDDN(ddname3)'
| | | '|,ddname2-' | | '|,ddname4'
| '-COPYDDN(,ddname2)-----'
```

MODIFY RECOVERY

```
>>-MODIFY--RECOVERY----->
>+--LIST--listdef-name-----+>
      '-TABLESPACE-+------+table-space-name-'
              '-database-name.-'
      .-DSNUM--ALL-----.
```



```

>+-----+-----+-----+-----+----->
'-DSNUM--integer-' '-CLONE-'
>+-----+-----+-----+-----+----->
'-DELETDS-' '-NOCOPYPEND-'
>+--DELETE+-----+-----+-----+-----+-----><
|      +-AGE--integer-+-+      |
|      |      '-(*)-----' |      |
|      '-DATE--integer--+'      |
|      '-(*)-----'      |
|'-RETAIN-----+--LAST--(--integer--)-----+-----+'
|      +-LOGLIMIT-----+
|      '-GDGLIMIT+-----+-'
|
|      +-LAST--(--integer--)--
|      '-LOGLIMIT-----'

```

MODIFY STATISTICS

```

>>-MODIFY--STATISTICS----->
>+--LIST-- listdef-name-----+----->
+-TABLESPACE--+-----+--table-space-name+
|      '-database-name.-'      |
+-INDEXSPACE--+-----+--index-table-name+
|      '-database-name.-'      |
|'-INDEX--+-----+--index-name-----+'
|      '-creator-id.-'
>--DELETE--ALL-----+--AGE--(integer)--+-----><
+-ACCESSPATH+ |      '-(*)-----' |
|      '-SPACE-----' '-DATE--(integer)--+'
|      '-(*)-----'

```

OPTIONS

```

>>-OPTIONS----->
>+-----+-----+-----+-----+-----+-----+-----><
| '-PREVIEW-' '-LISTDEFD-ddname-' '-TEMPLATEDD-ddname-' '-event-spec-' | +-
OFF-----+ 'KEY-
-key-value-----' Event-spec
.-ITEMERROR,HALT-. .-WARNING,RC4-. >>-EVENT--(--+-----+-----+-----+-----+
-----+--)->< '-ITEMERROR,SKIP-' '-,-' +-WARNING,RC0-+
+-WARNING,RC8-'

```


'-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-----,
```



```
-->
'-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-'

>+-----+-----><
| .-NO-----., | '-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) | '-DRAIN--WRITERS-'
'-MAXRO--+-integer+-----'
      '-DEFER---'

.-LONGLOG--CONTINUE--.  .-DELAY--1200----,
>+-----+-----+-----+-----+-----+-----+----->
'-LONGLOG--+-TERM--+-'  '-DELAY--integer-'
      '-DRAIN-'

.-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-'
.-----,
V      |

>+-----+-----+-----+-----+-----+-----+-----
->< +-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-----,

```

```

>+-----+-----+-----+-----+-----+
->
'-UPDATE--++ACCESSPATH--+' '-HISTORY--++ALL-----+'
  +-SPACE-----+          +-ACCESSPATH--+
  '-NONE-----'          +-SPACE-----+
                              '-NONE-----'

>+-----+-----+-----+-----+-----+
->< '-FORCEROLLUP--++YES--+' '-NO--' Correlation-stat-spec .-FREQUAL--
NUMCOLS--1--COUNT--10-----, >+-----+-----+-----+
-----+-----+----->< '-KEYCARD-' | .-----+-----+
-----, | | V | '-----FREQUAL--NUMCOLS--integer--
COUNT--integer--+' .-NUMCOLS--1--NUMQUANTILES--100-----, >--
HISTOGRAM--++-----+-----+-----+-----+-----+-----+
|                                     .-NUMQUANTILES--100-----, |
'-NUMCOLS--integer--++-----+-----+-----+-----+'
                                           '-NUMQUANTILES--integer-'

```

REORG TABLESPACE

```

>> -REORG-TABLESPACE-----
->
                      .-PARALLEL-YES-.

>+-LIST-listdef-name+-----+-----+-----+-----+-----+-----+-----+
|                   '-PARALLEL-NO--'                                     |
'-----+-----+table-space-name+-----+-----+'
  '-database-name.-'         |    .-,'-----|
                              |    V          ||
                              '-PART---++integer-----+++'
                              '-integer1:integer2-'

                      .-SCOPE ALL-----

>+-----+-----+-----+-----+-----+
->
  '-CLONE-' '-REUSE-' '-SCOPE PENDING-'

                                   _DROP PART NO__
>+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
->
  |                                     .-SORTCLUSTER--NO--. |           }_DROP PART YES_|
  '-REBALANCE--++-----+-----+-----+'
                               '-SORTCLUSTER--YES-'

                                     .-YES-.
.-LOG--YES-.  .-SORTDATA--++NO--++-.

```



```
>+-----+-----+-----+-----+-----+----->
->
'-LOG--NO--'          '-NOSYSREC-'
      .-AUTOESTSPACE YES-.
>--| copy-spec |-----+-----+-----+-----+----->
->
      '-AUTOESTSPACE NO--'

.-SHRLEVEL NONE-----

>----->
'-SHRLEVEL--+-REFERENCE--| deadline-spec |--| drain-spec |-----+>
      '-CHANGE-|deadline-spec|--|drain-spec|--|table-change-spec|-'
```



```

--+-+-----+-----+----->
'-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 I
>+--+--+--+-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--)-.
>+-----+-----+-----+-----+-----+-----+-----+-----+-----+
->
|          .-----| |
|          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--)-. >>+--+
-----+--+-----+--+-----+--+-----+--+>< | '-SAMPLE--
integer-' '-USE PROFILE-' | | .-----+--+-----+--+-----+--+-----
-----, | | V | | '-TABLE--(--table-name--)-+-----+--+-----
-' '-| table-stats-spec |-' Table-stats-spec .-COLUMN--ALL-----
. >>+-----+--+-----+-----+-----+-----+-----+----->
   '-SAMPLE--integer-' | | | | | .,-----, | |
                       | | | | | V | | | |
                       '-COLUMN--(--column-name--)-'

```

```

>+-----+-----+-----+-----+-----+-----+-----+----->< | ., , -
-----+-----+-----+-----+-----+-----+-----+-----+-----
. | | | V V | | | +---COLGROUP--(--column-name--)-| colgroup-stats-spec
|+--- '-USE PROFILE-----'
Colgroup-stats-spec: >>+-----+-----+-----+-----+-----+-----
----->
   '-FREQVAL-----+'
           | | | | | .-MOST--. |
           '-COUNT--integer-----+'
           +---BOTH---+
           '-LEAST-'

```

```

>+-----+-----+-----+-----+-----+-----+-----+----->< | .-
NUMQUANTILES--100-----, | '-HISTOGRAM--+-----+-----+' '-
NUMQUANTILES--integer-' Stat-index-spec .-INDEX--(--ALL--)-. >>+--+-----
-----+---| correlation-stats-spec |-----+----->< | ., ,-----
-----+-----, | | V | | '-INDEX--(--index-name--| correlation-stats-
spec |+---)-' 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-'

```

FROM-TABLE spec

```
>>-FROM--TABLE--table-name-----
->
>+-----+
->< '-WHEN--(--selection-condition-spec--)' Selection-condition spec >>+-
predicate----->
  '-selection condition-'
  .-----
  V                               I
>+-----+-----+-----><
'-+AND+--+predicate-----+' '-OR--' '-selection condition-'
Predicate >>+basic predicate--+-----
----->< +BETWEEN predicate+ +IN predicate-----+ +LIKE predicate-----+
'-NULL predicate----' Basic predicate >>-column-name--+ = --+-----
----->
      +- <> +-
      +- > --+
      +- < --+ +- >= +-
      '- < = -' >--+constant-----+-----
----->< '-labeled-duration-expression-' Between predicate
>>-column-name--+-----+BETWEEN----->
      '-NOT-'
>--+constant-----+AND----->
      '-labeled-duration-expression-'
>--+constant-----+-----><
'-labeled-duration-expression-' IN predicate .,-----, V I >>-column-name-
+-----+IN--(--constant+)------>< '-NOT-' LIKE
predicate >>-column-name--+-----+LIKE--string-constant-----
----->
      '-NOT-'
>+-----+-----+-----><
'-ESCAPE--string-constant-' NULL predicate >>-column-name--IS--+-----+NULL-
----->< '-NOT-' Reorg tablespace options
.-UNLDDN--SYSREC-. >>+-----+-----+-----+-----+-----
----->
      '-UNLDDN--ddname-' '-SORTDEVT--device-type-'
>+-----+-----+-----+-----+----->
      '-SORTNUM--integer-' '-PREFORMAT-' '-ROWFORMAT--BRF-'
                                   I -RRF- I
>+-----+-----+-----><
'-RBALRSN_CONVERSION--NONE-----+'
      +-BASIC-----+
      '-EXTENDED-'
```


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-' '-SHOWDNS-' 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---+-----+-----+-----+-----+----->
+-----+-----+-----+-----+----->
        '-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--+-| listdef-spec |-----+----->
      '-| table-space-spec |-'

      .-| statistics-spec |-.
>--+-----+----->< '-|
reset-spec |-----' Listdef-spec .-INVALIDATECACHE NO--. >>-LIST--listdef-
name--+-----+----->< '-INVALIDATECACHE
YES-' Table-space-spec >>--+-----+-----table-space-name-----
----->
      '-database-name.-'

>--+-----+----->
      |                .-FORCEROLLUP--NO--. |
      '-PART--integer--+-----+-----'
                '-FORCEROLLUP--YES-'

      .-INVALIDATECACHE NO--.
>--+-----+----->< '-
INVALIDATECACHE YES-' Statistics-spec >>--+-----+-----
----->
      |                .-(ALL)-.                |
+TABLE-----+-----+--| all-tables-spec |-----+
      | .-,-----, |
      | V                | |
      '---TABLE-----table-name--| named-tables-spec |+-'

>--+-----+----->
      '-+-INDEX-----(--ALL--)--| correlation-stats-spec |-----+-'
      +-INDEX--(--*-----)--| correlation-stats-spec |-----+
      |                .-,-----, |
      |                V                | |
      '-INDEX--(----index-name--| correlation-stats-spec |+---)-'
                .-REGISTER--YES-.
      .-SHRLEVEL--CHANGE --+-----+--.
      |                '-REGISTER--NO--' | .-REPORT--NO--.
>--+-----+-----+----->
      '-SHRLEVEL--REFERENCE-----' '-REPORT--YES-'

      .-UPDATE--ALL-----,
>--+-----+-----+-----| history-spec |----->
      '---UPDATE--+-ACCESSPATH+---'
                +-SPACE-----+
                '-NONE-----'

>--+-----+----->< '-SORTDEVT-
```



```

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

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

>---+-----+----->< | .-
NUMQUANTILES--100-----, | '-HISTOGRAM---+-----+-' '-
NUMQUANTILES--integer-' Correlation-stats-spec: >>---+-----+-----
----->
'-KEYCARD-----'

,-----,
V .-FREQVAL -NUMCOLS--1--COUNT--10--MOST-----, |
>---+-----+-----+----->
'-FREQVAL -NUMCOLS--integer-----+-----+-'
| .-MOST--. |
'-COUNT--integer-----+-----+-'
+-BOTH--+
'-LEAST-'

,-----,
V |

```

```

>-----+----->
| .-NUMCOLS--1--NUMQUANTITIES--100----- . | '-HISTOGRAM--+-----
-----+-----' | .-NUMQUANTILES--100----- . |
'-NUMCOLS--integer-----+-----+-----' '-NUMQUANTILES--integer-
' Set-profile-spec: >>+--SET--PROFILE--+-----+-----
----->< | | (1) | | | '-FROM EXISTING STATS-----' | '-UPDATE--PROFILE-----
-----' History-spec .-HISTORY--NONE----- . >>-----+-----
-----+----->< '-HISTORY--+--ALL-----
-----+-----
                +-ACCESSPATH-+
                '-SPACE-----'

```

STOSPACE

```

                .,-----,
                V             |
>>-STOSPACE--STOGROUP(+-----stogroup-name+---)-----
-->< '-+-----'

```

TEMPLATE

```

>>-TEMPLATE--template-name--DSN--name-expression-----
--->
>+-----+-----+-----+-----
--->
    '-common-options-' +-disk-options-+
                        '-tape-options-'
>+-----+-----+-----+-----
--->
    '-SUBSYS--name--LRECL--int--RECFM--+-----+-'
                                           +-F--+
                                           +-FB--+
                                           +-V--+
                                           '-VB-'
>--path-expression-----
-->< Name-expression .,----- . V | >>--qualifier-expression-
+----->
>+-----+-----+-----+-----
-->< '-(parenthetical-expression)-' Qualifier expression .-----
----- . V | >>--+character-expression-----
-----+----->< '&variable'+-----
-----+-----' '-(start+-----+)------' '-,length-' Common-options .-
UNIT--SYSALLDA-. >>+-----+-----+-----+-----
----->

```

```
'-UNIT--name-----' '-MODELDB--dsname-'
.-BUFNO-30-----
>+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
-->
'-BUFNO--integer-' '-DATACLAS--name-' '-MGMTCLAS--name-'
>+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
-->
'-STORCLAS--name-' +-RETPD integer+
                      '-EXPDL' date'--'
>+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
-->
|               .,-----, | '-VOLCNT--integer-'
|               V           | |
'-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--+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
          '-(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-----
----->
```



```
| | .-----.| |
| |         V         | |
+-source-spec-----+-----+-----+
| |         '-from-table-spec-' | |
'-LIST--listdef-name-----'
```

```
>--unload-spec-----+-----+-----+-----+-----+-----+-----+-----+
->< '-CLONE-' Source-spec >>-TABLESPACE--+-----+-----+-----+-----+
----->
        '-database-name.-'
```

```
>+-----+-----+-----+-----+-----+-----+-----+-----+
-->
    I-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-----+ + + EBCDIC--+
        '-template-name-' +ASCII--+
                        '-UNICODE-'
                                '-SPANNED NO--'
```

```
>+-----+-----+-----+-----+-----+-----+-----+-----+
->
    | | .-,-----.| | '-NOSUBS-' '-NOPAD-' '-SPANNED YES-'
    | |         V         | |
    '-CCSID(---integer--)-'
```

```
>+-----+-----+-----+-----+-----+-----+-----+-----+-----+>
| | .-COLDEL--','-----.-CHARDEL--'"'"'-----.-DECPT--'.',-----|
'-DELIMITED-----+-----+-----+-----+-----+-----+-----+
        '-COLDEL--coldel-' '-CHARDEL--chardel-' '-DECPT--decpt-'
    .-FLOAT--S390-. .-MAXERR--1-----.
```

```
>+-----+-----+-----+-----+-----+-----+-----+-----+
'-FLOAT--IEEE-' '-MAXERR--integer-'
.-SHRLEVEL--CHANGE--ISOLATION--CS--+-----+-----+-----+-----+
| |         '-SKIP LOCKED DATA-' |
>+-----+-----+-----+-----+-----+-----+-----+-----+
'-SHRLEVEL--CHANGE--ISOLATION-UR--+-----+-----+-----+-----+
>+-----+-----+-----+-----+-----+-----+-----+-----+>
```

```

'-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

```

      .,-----,
      V           I
>>-column-name--+-----+--IN--(---constant+--)------><
'-NOT-' LIKE predicate >>-column-name--+-----+--LIKE--string-constant-----
----->
      '-NOT-'

>+-----+-----+-----><
'-ESCAPE--string-constant-' NULL predicate >>-column-name--IS--+-----+--NULL-
----->< '-NOT-' Labeled-duration-
expression >>+--CURRENT_DATE-----+-----
----->
      '-CURRENT_TIMESTAMP-----+--'
      '-WITH TIME ZONE-'

      .,-----,
      V           I
>---+- + -+-constant--+--YEAR-----+-----><
+-YEARS-----+
      +-MONTH-----+
      +-MONTHS-----+
      +-DAY-----+
      +-DAYS-----+
      +-HOUR-----+
      +-HOURS-----+
      +-MINUTE-----+
      +-MINUTES-----+
      +-SECOND-----+
      +-SECONDS-----+
      +-MICROSECOND--+
      +-MICROSECONDS--+
```

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