

# BREXX Source Arrays and Linked Lists

## A. String Array functions

### SCREATE(size)

Creates a Source Array, returned is the Source Array Number, which must be used in various Source Array functions. The size refers to the maximum number of entries of the array. Exceeding the maximum might lead to an OC4 or other abends.

You can have up to 32 different arrays, depending on virtual storage availability.

Example see SGET.

### SSET(array-number,item-index,string-value)

Sets a certain element of the array with a string value. The item index must not exceed the maximum size defined in the SCREATE function.

Example see SGET.

### SGET(array-number,item-index)

Gets (returns) an element of the array as a string value. The item index must not exceed the maximum size defined in the SCREATE function.

#### Example

```
smax=15
s1=screate(smax)
do i=1 to smax
  call sset(s1,i,right(i,3,'0')'. Record')
end
do i=1 to smax
  say sget(s1,i)
end
```

#### Result

```
001. Record
002. Record
003. Record
004. Record
005. Record
006. Record
007. Record
008. Record
009. Record
010. Record
011. Record
012. Record
013. Record
014. Record
015. Record
```

### SWAP(array-number,item-number-1, item-number-2)

Swaps the position of 2 elements in the array. As only pointers are moved a very fast function.

### SCLC(array-number,item-number-1, item-number-2)

Compares 2 elements of the array. SCLC is much faster than loading both items and comparing it to the REXX level.

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returns

```
<0    if item-1 < item-2
0      if item-1 = item-2
>0    if item-1 > item-2
```

Example

```
smax=15
s1=screate(smax)
do i=1 to smax
  call sset(s1,i,right(i,3,'0')'. Record')
end
do i=1 to smax
  say "Compare item "i" and 8, result: "sclc(s1,i,8)
end
```

Result

```
Compare item 1 and 8, result: -7
Compare item 2 and 8, result: -6
Compare item 3 and 8, result: -5
Compare item 4 and 8, result: -4
Compare item 5 and 8, result: -3
Compare item 6 and 8, result: -2
Compare item 7 and 8, result: -1
Compare item 8 and 8, result: 0
Compare item 9 and 8, result: 1
Compare item 10 and 8, result: 1
Compare item 11 and 8, result: 1
Compare item 12 and 8, result: 1
Compare item 13 and 8, result: 1
Compare item 14 and 8, result: 1
Compare item 15 and 8, result: 1
```

**SQSORT(array-number,[ASCENDING/DESCENDING],[sort-offset])**

Sorts an array using the quick sort algorithm in ascending or descending order, default is ascending. The sort-offset defines the sorting scope up to the end of the item, any substrings prior to it are not treated. If you define for example 5, the array is sorted at offset 5 (up to the rest of the item). The sort-offset defaults to 1.

This sort is 500 times faster than the BREXX quick sort running on stems.

Returns the number of sorted items.

Example

```
max=25
s1=SREAD("'pej.songs2'")
call slist s1
call sqsort(s1,'ASC',26)/* Sort Array S1 beginning column 26(song name) */
call slist s1          /* display sorted array */
call sfree s1
```

Result, song names are in sorted order

```
Entries of Source Array: 0
Entry  Data
-----
```

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00001	LED ZEPPELIN	STAIRWAY TO HEAVEN
00002	EAGLES	HOTEL CALIFORNIA
00003	AC/DC	BACK IN BLACK
00004	JOURNEY	DON'T STOP BELIEVIN'
00005	PINK FLOYD	ANOTHER BRICK IN THE WALL
00006	QUEEN	BOHEMIAN RHAPSODY
00007	TOTO	HOLD THE LINE
00008	KISS	I WAS MADE FOR LOVIN' YOU
00009	BON JOVI	LIVIN' ON A PRAYER
00010	NIRVANA	SMELLS LIKE TEEN SPIRIT
00011	DEEP PURPLE	SMOKE ON THE WATER
00012	METALLICA	NOTHING ELSE MATTERS
00013	THE ROLLING STONES	(I CAN'T GET NO) SATISFACTIO
00014	BRUCE SPRINGSTEEN	BORN IN THE U.S.A.
00015	QUEEN	WE WILL ROCK YOU
00016	LYNYRD SKYNYRD	FREE BIRD
00017	SURVIVOR	EYE OF THE TIGER
00018	THE CLASH	SHOULD I STAY OR SHOULD I GO
00019	JIMI HENDRIX	HEY JOE
00020	FLEETWOOD MAC	LITTLE LIES
00021	AC/DC	HIGHWAY TO HELL
00022	THE POLICE	ROXANNE

Entries of Source Array: 0

Entry    Data

```
-----
```

00001	THE ROLLING STONES	(I CAN'T GET NO) SATISFACTION
00002	PINK FLOYD	ANOTHER BRICK IN THE WALL
00003	AC/DC	BACK IN BLACK
00004	QUEEN	BOHEMIAN RHAPSODY
00005	BRUCE SPRINGSTEEN	BORN IN THE U.S.A.
00006	JOURNEY	DON'T STOP BELIEVIN'
00007	SURVIVOR	EYE OF THE TIGER
00008	LYNYRD SKYNYRD	FREE BIRD
00009	JIMI HENDRIX	HEY JOE
00010	AC/DC	HIGHWAY TO HELL
00011	TOTO	HOLD THE LINE
00012	EAGLES	HOTEL CALIFORNIA
00013	KISS	I WAS MADE FOR LOVIN' YOU
00014	FLEETWOOD MAC	LITTLE LIES
00015	BON JOVI	LIVIN' ON A PRAYER
00016	METALLICA	NOTHING ELSE MATTERS
00017	THE POLICE	ROXANNE
00018	THE CLASH	SHOULD I STAY OR SHOULD I GO
00019	NIRVANA	SMELLS LIKE TEEN SPIRIT
00020	DEEP PURPLE	SMOKE ON THE WATER
00021	LED ZEPPELIN	STAIRWAY TO HEAVEN
00022	QUEEN	WE WILL ROCK YOU

Records ok 100000

**SHSORT(array-number,[ASCENDING/DESCENDING],[sort-offset])**

Sorts an array using the shell sort algorithm in ascending or descending order, default is ascending.

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The sort-offset defines the sorting scope up to the end of the item, any substrings prior to it are not treated. If you define for example 5, the array is sorted at offset 5 (up to the rest of the item). The sort-offset defaults to 1.

This sort is 500 times faster than the BREXX shell sort running on stems.

### SMERGE(array-number-1,array-number-2)

Merges 2 arrays into a new array, based on their sort order.

Returns the number of merged items.

#### Example

```
max=10
s1=SCREATE(max)      /* Create a String Array called S1 */
s2=SCREATE(max)      /* Create a String Array called S2 */
do i=1 to max
  call sset(s1,i,right((max-i+1),4,'0')' A Record') /* Add new Record in
Array S1 at position i */
  call sset(s2,i,right((max-i+1),4,'0')' B Record') /* Add new Record in
Array S1 at position i */
end
say "Source Array S1"
say "-----"
call slist s1
say "Source Array S2"
say "-----"
call slist s2
s3=smerge(s1,s2)      /* Merge Array S1 and S2 into S3 */
say "Source Array S3"
say "-----"
call slist s3
return
```

#### Result

```
Source Array S1
-----
00001   0010 A Record
00002   0009 A Record
00003   0008 A Record
00004   0007 A Record
00005   0006 A Record
00006   0005 A Record
00007   0004 A Record
00008   0003 A Record
00009   0002 A Record
00010   0001 A Record
Source Array S2
-----
00001   0010 B Record
00002   0009 B Record
00003   0008 B Record
00004   0007 B Record
00005   0006 B Record
00006   0005 B Record
00007   0004 B Record
```

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```
00008  0003 B Record
00009  0002 B Record
00010  0001 B Record
Source Array S3
-----
00001  0001 A Record
00002  0001 B Record
00003  0002 A Record
00004  0002 B Record
00005  0003 A Record
00006  0003 B Record
00007  0004 A Record
00008  0004 B Record
00009  0005 A Record
00010  0005 B Record
00011  0006 A Record
00012  0006 B Record
00013  0007 A Record
00014  0007 B Record
00015  0008 A Record
00016  0008 B Record
00017  0009 A Record
00018  0009 B Record
00019  0010 A Record
00020  0010 B Record
```

### SREVERSE(array-number)

In reverse order of an array, the first item becomes the last item, the last item the first item, etc.

Returns the number of reversed items.

### Example

```
smax=10
s1=screate(smax)
do i=1 to smax
  call sset(s1,i,right(i,6,'0')". Record")
end
say "Original"
say "-----"
call slist s1
call sreverse(s1)
say "Reversed"
say "-----"
call slist s1
call sfree(s1)
EXIT 0
```

### Result

```
Original
-----
00001  000001. Record
00002  000002. Record
00003  000003. Record
00004  000004. Record
00005  000005. Record
```

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```
00006  000006. Record
00007  000007. Record
00008  000008. Record
00009  000009. Record
00010  000010. Record
Reversed
-----
00001  000010. Record
00002  000009. Record
00003  000008. Record
00004  000007. Record
00005  000006. Record
00006  000005. Record
00007  000004. Record
00008  000003. Record
00009  000002. Record
00010  000001. Record
```

### SFREE(array-number)

Removes the specified array and all its entries. All storage allocations are freed.

For example, see SWRITE.

### SWRITE(array-number,dsn/ddname)

Writes all entries of the specified array into an external dataset.

The dataset can be either a fully qualified Dataset Name or a pre-allocated DD Name.

returned is the number of written entries.

Example see SREAD.

### SREAD(dsn/ddname)

Reads all entries of an external dataset into a new String Array. The dataset can be either a fully qualified Dataset Name or a pre-allocated DD Name.

returned is the newly created Array number.

Example:

```
s1=sread("'pej.songs'")      /* import CSV formatted DSN */
s2=screate(sarray(s1))     /* create formatted version */
do i=1 to sarray(s1)
  parse value sget(s1,i) with band':'song
  call sset(s2,i,left(band,25)song)
end
call slist s2
say swrite(s2,"'pej.songs2'")' Entries exported'
```

The contents of pej.songs, list of 20 best rock songs (not rated by me):

```
LED ZEPPELIN:    STAIRWAY TO HEAVEN
EAGLES:         HOTEL CALIFORNIA
AC/DC:          BACK IN BLACK
JOURNEY:        DON'T STOP BELIEVIN'
PINK FLOYD:     ANOTHER BRICK IN THE WALL
QUEEN:          BOHEMIAN RHAPSODY
```

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```
TOTO:      HOLD THE LINE
KISS:      I WAS MADE FOR LOVIN' YOU
BON JOVI:  LIVIN' ON A PRAYER
NIRVANA:   SMELLS LIKE TEEN SPIRIT
DEEP PURPLE: SMOKE ON THE WATER
METALLICA: NOTHING ELSE MATTERS
THE ROLLING STONES: (I CAN'T GET NO) SATISFACTION
BRUCE SPRINGSTEEN: BORN IN THE U.S.A.
QUEEN:     WE WILL ROCK YOU
LYNYRD SKYNYRD: FREE BIRD
SURVIVOR:  EYE OF THE TIGER
THE CLASH:  SHOULD I STAY OR SHOULD I GO
JIMI HENDRIX: HEY JOE
FLEETWOOD MAC: LITTLE LIES
AC/DC:     HIGHWAY TO HELL
THE POLICE: ROXANNE
```

### Result of fetched DSN:

Entries of Source Array: 1

Entry Data

```
-----
00001 LED ZEPPELIN STAIRWAY TO HEAVEN
00002 EAGLES HOTEL CALIFORNIA
00003 AC/DC BACK IN BLACK
00004 JOURNEY DON'T STOP BELIEVIN'
00005 PINK FLOYD ANOTHER BRICK IN THE WALL
00006 QUEEN BOHEMIAN RHAPSODY
00007 TOTO HOLD THE LINE
00008 KISS I WAS MADE FOR LOVIN' YOU
00009 BON JOVI LIVIN' ON A PRAYER
00010 NIRVANA SMELLS LIKE TEEN SPIRIT
00011 DEEP PURPLE SMOKE ON THE WATER
00012 METALLICA NOTHING ELSE MATTERS
00013 THE ROLLING STONES (I CAN'T GET NO) SATISFACTION
00014 BRUCE SPRINGSTEEN BORN IN THE U.S.A.
00015 QUEEN WE WILL ROCK YOU
00016 LYNYRD SKYNYRD FREE BIRD
00017 SURVIVOR EYE OF THE TIGER
00018 THE CLASH SHOULD I STAY OR SHOULD I GO
00019 JIMI HENDRIX HEY JOE
00020 FLEETWOOD MAC LITTLE LIES
00021 AC/DC HIGHWAY TO HELL
00022 THE POLICE ROXANNE
```

22 Entries exported

### SLIST(array-number,[from],[to])

Prints the array content. With the optional from and to parameter, you can limit the range of entries to be printed.

For example, see SREAD and others

### SSEARCH(array-number,search-string, from,["CASE"/"NOCASE"])

Searches in a String Array for a certain string and returns the index number. For repeated searches, you can use the from parameter.

Returns index position if found, or zero.

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### Example

```
s1=sread("'pej.songs2'")
ssc="ON"
ssi=ssearch(s1,ssc) /* Search string ON in array */
do while ssi>0
  say "Found at "ssi": "sget(s1,ssi)
  ssi=ssearch(s1,ssc,ssi+1)
end
```

### Result

```
Found at 4: JOURNEY          DON'T STOP BELIEVIN'
Found at 9: BON JOVI        LIVIN' ON A PRAYER
Found at 11: DEEP PURPLE    SMOKE ON THE WATER
Found at 13: THE ROLLING STONES (I CAN'T GET NO) SATISFACTION
```

### SSELECT(array-number,search-1 ,[search-2,...,search-99])

Creates a subset of the array when an entry matches one of the specified search strings in a new array. There are up to 99 search strings allowed. The search is case-sensitive.

Returns the newly created array.

### Example

```
s1=sread("'pej.songs2'")
call slist s1
s2=sselect(s1,'ON','OF','EE') /* Search ON, OF, EE in array */
say copies('-',32)
say 'Selected'
say copies('-',32)
call slist s2
call sfree(s1)
call sfree(s2)
```

### Result

```
      Entries of Source Array: 0
Entry  Data
-----
00001  LED ZEPPELIN          STAIRWAY TO HEAVEN
00002  EAGLES                  HOTEL CALIFORNIA
00003  AC/DC                   BACK IN BLACK
00004  JOURNEY                  DON'T STOP BELIEVIN'
00005  PINK FLOYD              ANOTHER BRICK IN THE WALL
00006  QUEEN                   BOHEMIAN RHAPSODY
00007  TOTO                     HOLD THE LINE
00008  KISS                     I WAS MADE FOR LOVIN' YOU
00009  BON JOVI                LIVIN' ON A PRAYER
00010  NIRVANA                  SMELLS LIKE TEEN SPIRIT
00011  DEEP PURPLE             SMOKE ON THE WATER
00012  METALLICA               NOTHING ELSE MATTERS
00013  THE ROLLING STONES     (I CAN'T GET NO) SATISFACTION
00014  BRUCE SPRINGSTEEN      BORN IN THE U.S.A.
00015  QUEEN                   WE WILL ROCK YOU
00016  LYNYRD SKYNYRD         FREE BIRD
00017  SURVIVOR                EYE OF THE TIGER
```



## BREXX Source Arrays and Linked Lists

```
00018 THE CLASH SHOULD I STAY OR SHOULD I GO
00019 JIMI HENDRIX HEY JOE
00020 FLEETWOOD MAC LITTLE LIES
00021 AC/DC HIGHWAY TO HELL
00022 THE POLICE ROXANNE
```

-----  
Selected

-----  
Entries of Source Array: 1

Entry Data

```
-----
00001 JOURNEY DON'T STOP BELIEVIN'
00002 QUEEN BOHEMIAN RHAPSODY
00003 BON JOVI LIVIN' ON A PRAYER
00004 NIRVANA SMELLS LIKE TEEN SPIRIT
00005 DEEP PURPLE SMOKE ON THE WATER
00006 THE ROLLING STONES (I CAN'T GET NO) SATISFACTI ON
00007 BRUCE SPRINGSTEEN BORN IN THE U.S.A.
00008 QUEEN WE WILL ROCK YOU
00009 LYNYRD SKYNYRD FREE BIRD
00010 SURVIVOR EYE OF THE TIGER
00011 FLEETWOOD MAC LITTLE LIES
```

### SARRAY(array-number)

Returns information about the Source Array. The following BREXX variables are set:

```
sarrayhi highest element number set in the array
sarraymax maximum entries available
sarrayADDR address of the Source Array
```

Returns the highest array entry.

# BREXX Source Arrays and Linked Lists

## B. Linked List functions

### LLCREATE()

Creates a Linked List, returned is the Linked List Number(llist-number) which must be used in various Linked List operations.

The Linked List is bidirectional. You can have up to 32 different Linked Lists, depending on the virtual storage availability.

### LLFREE(llist-number)

Removes the Linked List and all its entries. All storage allocations are freed.

### LLCLEAR(llist-number)

Clears (removes) the Linked List entries, but the list header remains intact. From there you can add new entries to it.

### LLADD(llist-number,"entry-text")

Adds a new entry (lentry) at the end of the Linked List and links up the previous entry with a forward and the new entry backward reference. If the operation is successful a pointer (llpointer) to the new entry is returned. If the operation fails a return code < 0 is returned.

The internal current pointer (llcurrent) is set to the new entry and can be used in subsequent Linked List operations.

Example see LLINSERT

### LLDEL(llist-number,[llist-pointer])

Removes an entry, defined by the current entry or the specified llist-pointer (llpointer). If the operation was successful the internal current pointer (llcurrent) is set to the next entry, if there is no one, to the last element. Returned will be the internal current pointer (llcurrent). If the operation fails a return code < 0 is returned.

### Example

```
l11=llread("'pej.songs2'")          /* Create Linked List */
call l11list l11
call llset(l11,"POSITION",3)      /* set to 3. Entry      */
call llidel(l11)                  /* remove AC/DC        */
call l11list l11
call llfree l11
```

### Result

Entries of Linked List: 0 (0)					
Entry	Entry Address	Next	Previous	Data	
1	3061c8	306258	0	LED ZEPPELIN	STAIRWAY TO HEAVEN
2	306258	3062e8	3061c8	EAGLES	HOTEL CALIFORNIA
3	3062e8	306378	306258	AC/DC	BACK IN BLACK
4	306378	306408	3062e8	JOURNEY	DON'T STOP BELIEVIN'
5	306408	306498	306378	PINK FLOYD	ANOTHER BRICK IN THE WALL
6	306498	306528	306408	QUEEN	BOHEMIAN RHAPSODY
7	306528	3065b8	306498	TOTO	HOLD THE LINE
8	3065b8	306648	306528	KISS	I WAS MADE FOR LOVIN' YOU
9	306648	3066d8	3065b8	BON JOVI	LIVIN' ON A PRAYER

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10	3066d8	306768	306648	NIRVANA	SMELLS LIKE TEEN SPIRIT
11	306768	3067f8	3066d8	DEEP PURPLE	SMOKE ON THE WATER
12	3067f8	306888	306768	METALLICA	NOTHING ELSE MATTERS
13	306888	306918	3067f8	THE ROLLING STONES	(I CAN'T GET NO) SATISFACTION
14	306918	3069a8	306888	BRUCE SPRINGSTEEN	BORN IN THE U.S.A.
15	3069a8	305498	306918	QUEEN	WE WILL ROCK YOU
16	305498	306a38	3069a8	LYNYRD SKYNYRD	FREE BIRD
17	306a38	306ac8	305498	SURVIVOR	EYE OF THE TIGER
18	306ac8	305458	306a38	THE CLASH	SHOULD I STAY OR SHOULD I GO
19	305458	305658	306ac8	JIMI HENDRIX	HEY JOE
20	305658	306b58	305458	FLEETWOOD MAC	LITTLE LIES
21	306b58	305618	305658	AC/DC	HIGHWAY TO HELL
22	305618	0	306b58	THE POLICE	ROXANNE

Linked List contains 22 Entries  
List counter 22 Entries  
Current active Entry 305618  
Entries of Linked List: 0 (0)

Entry	Entry Address	Next	Previous	Data	
1	3061c8	306258	0	LED ZEPPELIN	STAIRWAY TO HEAVEN
2	306258	306378	3061c8	EAGLES	HOTEL CALIFORNIA
3	306378	306408	306258	JOURNEY	DON'T STOP BELIEVIN'
4	306408	306498	306378	PINK FLOYD	ANOTHER BRICK IN THE WALL
5	306498	306528	306408	QUEEN	BOHEMIAN RHAPSODY
6	306528	3065b8	306498	TOTO	HOLD THE LINE
7	3065b8	306648	306528	KISS	I WAS MADE FOR LOVIN' YOU
8	306648	3066d8	3065b8	BON JOVI	LIVIN' ON A PRAYER
9	3066d8	306768	306648	NIRVANA	SMELLS LIKE TEEN SPIRIT
10	306768	3067f8	3066d8	DEEP PURPLE	SMOKE ON THE WATER
11	3067f8	306888	306768	METALLICA	NOTHING ELSE MATTERS
12	306888	306918	3067f8	THE ROLLING STONES	(I CAN'T GET NO) SATISFACTION
13	306918	3069a8	306888	BRUCE SPRINGSTEEN	BORN IN THE U.S.A.
14	3069a8	305498	306918	QUEEN	WE WILL ROCK YOU
15	305498	306a38	3069a8	LYNYRD SKYNYRD	FREE BIRD
16	306a38	306ac8	305498	SURVIVOR	EYE OF THE TIGER
17	306ac8	305458	306a38	THE CLASH	SHOULD I STAY OR SHOULD I GO
18	305458	305658	306ac8	JIMI HENDRIX	HEY JOE
19	305658	306b58	305458	FLEETWOOD MAC	LITTLE LIES
20	306b58	305618	305658	AC/DC	HIGHWAY TO HELL
21	305618	0	306b58	THE POLICE	ROXANNE

Linked List contains 21 Entries  
List counter 21 Entries  
Current active Entry 306378

### LLINSERT(llist-number,"entry-text"[,llist-pointer])

Inserts a new entry (llentry) **before** the current entry or the specified llist-pointer. All link information from the predecessor and successor entries are updated.

If the operation is successful a pointer (llpointer) to the inserted entry is returned. If the operation fails a return code < 0 is returned.

The internal current pointer (llcurrent) is set to the new entry and can be used in subsequent Linked List operations.

### Example

```

ll1=llread("'pej.songs2'")          /* Create Linked List */
say copies('-',32)
say "Run Through Linked List"
say copies('-',32)
say llget(ll1,"FIRST")
do while llset(ll1,"NEXT")>0
    say llget(ll1)
end
call llset(ll1,"POSITION",2)       /* set to 1. Entry */
call llinsert(ll1,"CREAM           I AM SO GLAD")
call lllist ll1
call llfree ll1

```

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### Result

```

-----
Run Through Linked List
-----
LED ZEPPELIN          STAIRWAY TO HEAVEN
EAGLES                HOTEL CALIFORNIA
AC/DC                 BACK IN BLACK
JOURNEY               DON'T STOP BELIEVIN'
PINK FLOYD            ANOTHER BRICK IN THE WALL
QUEEN                 BOHEMIAN RHAPSODY
TOTO                  HOLD THE LINE
KISS                  I WAS MADE FOR LOVIN' YOU
BON JOVI              LIVIN' ON A PRAYER
NIRVANA               SMELLS LIKE TEEN SPIRIT
DEEP PURPLE           SMOKE ON THE WATER
METALLICA             NOTHING ELSE MATTERS
THE ROLLING STONES   (I CAN'T GET NO) SATISFACTION
BRUCE SPRINGSTEEN    BORN IN THE U.S.A.
QUEEN                 WE WILL ROCK YOU
LYNYRD SKYNYRD       FREE BIRD
SURVIVOR              EYE OF THE TIGER
THE CLASH             SHOULD I STAY OR SHOULD I GO
JIMI HENDRIX          HEY JOE
FLEETWOOD MAC        LITTLE LIES
AC/DC                 HIGHWAY TO HELL
THE POLICE            ROXANNE

Entries of Linked List: 0 (0)
Entry Entry Address      Next      Previous      Data
-----
  1    305258             305138          0    LED ZEPPELIN          STAIRWAY TO HEAVEN
  2    305138             3052e8          305258    CREAM                 I AM SO GLAD
  3    3052e8             305378          305258    EAGLES                HOTEL CALIFORNIA
  4    305378             305408          3052e8    AC/DC                 BACK IN BLACK
  5    305408             305498          305378    JOURNEY               DON'T STOP BELIEVIN'
  6    305498             305528          305408    PINK FLOYD            ANOTHER BRICK IN THE WALL
  7    305528             3055b8          305498    QUEEN                 BOHEMIAN RHAPSODY
  8    3055b8             305648          305528    TOTO                  HOLD THE LINE
  9    305648             3056d8          3055b8    KISS                  I WAS MADE FOR LOVIN' YOU
 10   3056d8             305768          305648    BON JOVI              LIVIN' ON A PRAYER
 11   305768             3057f8          3056d8    NIRVANA               SMELLS LIKE TEEN SPIRIT
 12   3057f8             305888          305768    DEEP PURPLE           SMOKE ON THE WATER
 13   305888             305918          3057f8    METALLICA             NOTHING ELSE MATTERS
 14   305918             3059a8          305888    THE ROLLING STONES   (I CAN'T GET NO) SATISFACTION
 15   3059a8             305a38          305918    BRUCE SPRINGSTEEN    BORN IN THE U.S.A.
 16   305a38             304818          3059a8    QUEEN                 WE WILL ROCK YOU
 17   304818             305ac8          305a38    LYNYRD SKYNYRD       FREE BIRD
 18   305ac8             305b58          304818    SURVIVOR              EYE OF THE TIGER
 19   305b58             3047d8          305ac8    THE CLASH             SHOULD I STAY OR SHOULD I GO
 20   3047d8             3049d8          305b58    JIMI HENDRIX          HEY JOE
 21   3049d8             305be8          3047d8    FLEETWOOD MAC        LITTLE LIES
 22   305be8             304998          3049d8    AC/DC                 HIGHWAY TO HELL
 23   304998             0               305be8    THE POLICE            ROXANNE

Linked List contains 23 Entries
List counter 23 Entries
Current active Entry 305138

```

### LLGET(llist-number[option/llist-pointer])

Returns the entry referred by the option or internal current pointer, or the specified llist-pointer. The internal current pointer (llcurrent) is not changed.

Options:

- NEXT** sets it to the next element after llcurrent in the Linked List chain. If llcurrent was the last element 0 is returned.
- PREVIOUS** sets it to the previous element of llcurrent in the Linked List chain. If llcurrent was the first element 0 is returned.
- FIRST** sets it to the first element in the Linked List.
- LAST** sets it to the last element in the Linked List.

## BREXX Source Arrays and Linked Lists

### Example

```
ll1=llread("'pej.songs2'")          /* Create Linked List */
say copies('-',32)
say "Run Through Linked List"
say copies('-',32)
say llget(ll1,"FIRST")
do while llset(ll1,"NEXT")>0
    say llget(ll1)
end
call llfree ll1
```

### Result

```
-----
Run Through Linked List
-----
LED ZEPPELIN          STAIRWAY TO HEAVEN
EAGLES               HOTEL CALIFORNIA
AC/DC                BACK IN BLACK
JOURNEY              DON'T STOP BELIEVIN'
PINK FLOYD           ANOTHER BRICK IN THE WALL
QUEEN                BOHEMIAN RHAPSODY
TOTO                 HOLD THE LINE
KISS                  I WAS MADE FOR LOVIN' YOU
BON JOVI             LIVIN' ON A PRAYER
NIRVANA              SMELLS LIKE TEEN SPIRIT
DEEP PURPLE          SMOKE ON THE WATER
METALLICA            NOTHING ELSE MATTERS
THE ROLLING STONES  (I CAN'T GET NO) SATISFACTION
BRUCE SPRINGSTEEN   BORN IN THE U.S.A.
QUEEN                WE WILL ROCK YOU
LYNYRD SKYNYRD      FREE BIRD
SURVIVOR             EYE OF THE TIGER
THE CLASH            SHOULD I STAY OR SHOULD I GO
JIMI HENDRIX         HEY JOE
FLEETWOOD MAC        LITTLE LIES
AC/DC                HIGHWAY TO HELL
THE POLICE           ROXANNE
```

### LLSET(llist-number,option[,sub-option])

Changes the internal current pointer according to the specified option and returns it as a pointer.

Options:

- NEXT** sets it to the next element after llcurrent in the Linked List chain. If llcurrent was the last element 0 is returned.
- PREVIOUS** sets it to the previous element of llcurrent in the Linked List chain. If llcurrent was the first element 0 is returned.
- FIRST** sets it to the first element in the Linked List.
- LAST** sets it to the last element in the Linked List.
- POSITION** sets it to n.<sup>th</sup> entry, as defined in sub-option. If the specified number is not available it is set to the last entry.
- CURRENT** returns the current internal current pointer.
- ADDRESS** sets it according to the address defined in the sub-option.

## BREXX Source Arrays and Linked Lists

**LLCOPY**(l1ist-number,[from],[to],[existing-list],[“list-name”])

Creates a copy of the Linked List. If an existing linked-list is specified, the entries are added after its existing entries.

**from** (optional) starts the copying process at from.<sup>th</sup> entry.  
**to** (optional) ends the copying process with to.<sup>th</sup> entry.  
**existing-list** (optional) appending an existing Source Array, else a new one will be created  
**list-name** (optional) names the new/appended Link List

returned is the newly created or appended Linked List Number(l1ist-number)

### Example

```
max=10
l11=llcreate()                /* Create Linked List */
l12=llcreate()                /* Create Linked List */
call time('r')
do i=1 to max
  adr=lladd(l11,i". Record")
end
call llList l11
do i=1 to 5
  adr=lladd(l12,i". Entry")
end
call llList l12
l13=llcopy(l11,,l12,"Copied")
call llList l13
```

### Result

```
Entries of Linked List: 0 (UNNAMED)
Entry Entry Address      Next      Previous      Data
-----
  1      2e3258      2e3278          0      1. Record
  2      2e3278      2e3298      2e3258      2. Record
  3      2e3298      2e32b8      2e3278      3. Record
  4      2e32b8      2e32d8      2e3298      4. Record
  5      2e32d8      2e32f8      2e32b8      5. Record
  6      2e32f8      2e3318      2e32d8      6. Record
  7      2e3318      2e3338      2e32f8      7. Record
  8      2e3338      2e3358      2e3318      8. Record
  9      2e3358      2e3378      2e3338      9. Record
 10      2e3378          0      2e3358     10. Record
Linked List contains 10 Entries
List counter 10 Entries
Current active Entry 2e3378

Entries of Linked List: 1 (UNNAMED)
Entry Entry Address      Next      Previous      Data
-----
  1      2e3398      2e33b8          0      1. Entry
  2      2e33b8      2e33d8      2e3398      2. Entry
  3      2e33d8      2e33f8      2e33b8      3. Entry
  4      2e33f8      2e3418      2e33d8      4. Entry
  5      2e3418          0      2e33f8      5. Entry
Current active Entry 2e3418
```

## BREXX Source Arrays and Linked Lists

```
Linked List contains 5 Entries
      List counter  5 Entries
```

```
      Entries of Linked List: 1 (Copied)
Entry Entry Address      Next      Previous      Data
-----
  1     2e3398           2e33b8           0     1. Entry
  2     2e33b8           2e33d8           2e3398    2. Entry
  3     2e33d8           2e33f8           2e33b8    3. Entry
  4     2e33f8           2e3418           2e33d8    4. Entry
  5     2e3418           2e3458           2e33f8    5. Entry
  6     2e3458           2e3478           2e3418    1. Record
  7     2e3478           2e3498           2e3458    2. Record
  8     2e3498           2e34b8           2e3478    3. Record
  9     2e34b8           2e34d8           2e3498    4. Record
 10     2e34d8           2e34f8           2e34b8    5. Record
 11     2e34f8           2e3518           2e34d8    6. Record
 12     2e3518           2e3538           2e34f8    7. Record
 13     2e3538           2e3558           2e3518    8. Record
 14     2e3558           2e3578           2e3538    9. Record
 15     2e3578           0               2e3558   10. Record
```

```
Linked List contains 15 Entries
      List counter  15 Entries
Current active Entry 2e3578
```

### LLENTRY(llist-number [,llist-pointer])

Dumps the details of an entry either defined by the internal current pointer (llcurrent) or the llist-pointer.

```
-----
Linked List Entry
-----
```

```
Address  326f18
Data     42. Record
Next     326f58
Previous 326ed8
```

### LLLIST(llist-number[,from],[to])

Outputs a detailed list of all entries on a Linked list.

```
      Entries of Linked List: 0
Entry Entry Address      Next      Previous      Data
-----
  1     326458           326498           0     1. Record
  2     326498           3264d8           326458    2. Record
  3     3264d8           326518           326498    3. Record
  4     326518           326558           3264d8    4. Record
  5     326558           326598           326518    5. Record
  6     326598           3265d8           326558    6. Record
  7     3265d8           326618           326598    7. Record
  8     326618           326658           3265d8    8. Record
  9     326658           326698           326618    9. Record
 10     326698           3266d8           326658   10. Record
```

## BREXX Source Arrays and Linked Lists

11	3266d8	326718	326698	11. Record
12	326718	326758	3266d8	12. Record
...				

### LLDETAILS(llist-number,option)

Output statistics on the Linked List.

Options:

<b>COUNT</b>	returns the number of current entries in the Linked List.
<b>ADDED</b>	returns the number of added/inserted entries in the Linked List.
<b>DELETED</b>	returns the number of deleted entries in the Linked List.
<b>LIST</b>	returns the listed number of current entries in the Linked List. For this reason, it runs through the entire Linked List and counts the entries. LIST and COUNT should be equal, else there are inconsistencies in the Linked List.
<b>FULL</b>	Print all available information

```
CALL LLDETAILS (0, 'FULL')

Attributes of Linked List 0
-----
Entry Count      9999
   Listed        9999
   Added         10000
   Deleted        1
Current Pointer  326ed8
```

### LLDELINK(llist-number[,llist-pointer])

Similar to LLDL an entry defined by the current entry or the specified llist-pointer is removed from the Link List but is kept in storage as an orphan, which might be later inserted in a different position in the same or a different Linked List. This is a fast way of moving elements.

Returned is the address of the orphaned entry.

If the operation was successful the internal current pointer (llcurrent) is set to the next entry, if there is no one, to the last element.

The example is contained in the LLLINK sample.

### LLLINK(llist-number, llist-pointer)

Links an orphaned entry to the Linked List **prior** to the current entry and sets the pointers accordingly.

If the operation was successful, the internal current pointer (llcurrent) is set to the newly inserted entry.

#### Example

```
max=10
ll1=llcreate()           /* Create Linked List */
ll2=llcreate()           /* Create Linked List */
```



## BREXX Source Arrays and Linked Lists

```

do i=1 to max
  adr=lladd(ll1,i". Record")          /* add new entry      */
end
call llList ll1
posadr=llset(ll1,"POSITION",7)       /* set to 7. Entry   */
deladr=lldelink(ll1,posadr)          /* DELINK it         */
say "is now de-linked,ADDR "d2x(deladr)
call llList ll1
say "Insert one entry to LL2 "d2x(llinsert(ll2,"1. Entry"))
call llList ll2
say "LINK into new LList "d2x(llLink(ll2,deladr))
call llList ll2

```

### Result

```

Entries of Linked List: 0 (UNNAMED)
Entry Entry Address      Next      Previous      Data
-----
1      2db238             2db258             0             1. Record
2      2db258             2db278             2db238        2. Record
3      2db278             2db298             2db258        3. Record
4      2db298             2db2b8             2db278        4. Record
5      2db2b8             2db2d8             2db298        5. Record
6      2db2d8             2db2f8             2db2b8        6. Record
7      2db2f8             2db318             2db2d8        7. Record
8      2db318             2db338             2db2f8        8. Record
9      2db338             2db358             2db318        9. Record
10     2db358             0                   2db338       10. Record

```

Linked List contains 10 Entries

List counter 10 Entries

is now de-linked,ADDR 2DB2F8

```

Entries of Linked List: 0 (UNNAMED)
Entry Entry Address      Next      Previous      Data
-----
1      2db238             2db258             0             1. Record
2      2db258             2db278             2db238        2. Record
3      2db278             2db298             2db258        3. Record
4      2db298             2db2b8             2db278        4. Record
5      2db2b8             2db2d8             2db298        5. Record
6      2db2d8             2db318             2db2b8        6. Record
7      2db318             2db338             2db2d8        8. Record
8      2db338             2db358             2db318        9. Record
9      2db358             0                   2db338       10. Record

```

Linked List contains 9 Entries

List counter 9 Entries

Insert one entry to LL2 2DB3D8

```

Entries of Linked List: 1 (UNNAMED)
Entry Entry Address      Next      Previous      Data
-----
1      2db3d8             0           0             1. Entry

```

Linked List contains 1 Entries

List counter 1 Entries

LINK into new LList 2DB2F8

```

Entries of Linked List: 1 (UNNAMED)
Entry Entry Address      Next      Previous      Data
-----
1      2db2f8             2db3d8             0             7. Record

```

## BREXX Source Arrays and Linked Lists

```

      2      2db3d8      0      0      1. Entry
Linked List contains 2 Entries
      List counter 2 Entries

```

### LL2S([l1st-number],[from],[to],[existing-array])

Copy a Linked List into a Source Array.

**from** (optional) starts the copying process at from.<sup>th</sup> entry.

**to** (optional) ends the copying process with to.<sup>th</sup> entry.

**existing-array** (optional) appending an existing Source Array, else a new one will be created

returned is the Linked List Number(l1st-number)

### Example

```

max=8
l1l=llcreate()
do i=1 to max
  adr=lladd(l1l,i". Record")
end
call llList l1l
s1=ll2s(l1l)
say "Linked List copied into Source Array "s1
call slist(s1)
call llfree(l1l)
call sfree(s1)

```

### Result

```

      Entries of Linked List: 0 (UNNAMED)
Entry Entry Address      Next      Previous      Data
-----
      1      2e3218      2e3238      0      1. Record
      2      2e3238      2e3258      2e3218      2. Record
      3      2e3258      2e3278      2e3238      3. Record
      4      2e3278      2e3298      2e3258      4. Record
      5      2e3298      2e32b8      2e3278      5. Record
      6      2e32b8      2e32d8      2e3298      6. Record
      7      2e32d8      2e32f8      2e32b8      7. Record
      8      2e32f8      0      2e32d8      8. Record
Linked List contains 8 Entries
      List counter 8 Entries
Current active Entry 2e32f8
Linked List copied into Source Array 0
      Entries of Source Array: 0
Entry      Data
-----
00001      1. Record
00002      2. Record
00003      3. Record
00004      4. Record
00005      5. Record
00006      6. Record
00007      7. Record
00008      8. Record

```

## BREXX Source Arrays and Linked Lists

### LLSORT(llist--number,[ASCENDING/DESCENDING],[sort-offset])

Sorts the Linked List using the quick sort algorithm in ascending or descending order, default is ascending.

The sort offset defines the sorting scope up to the end of the item, any substrings before it are not treated. If you define for example 5, the array is sorted at offset 5 (up to the rest of the item). The sort-offset defaults to 1.

returned is the Linked List Number(llist-number), it is the same as the entry list.

#### Example

```
ll1=llread("'pej.songs2'")
call llList ll1
call llsort ll1
call llList ll1 /* sort from column 1, band name */
call llfree ll1
```

#### Result

```

Entries of Linked List: 0 (0)
Entry Entry Address      Next      Previous      Data
-----
  1   3371c8             337258           0   LED ZEPPELIN          STAIRWAY TO HEAVEN
  2   337258             3372e8       3371c8   EAGLES                HOTEL CALIFORNIA
  3   3372e8             337378       337258   AC/DC                 BACK IN BLACK
  4   337378             337408       3372e8   JOURNEY               DON'T STOP BELIEVIN'
  5   337408             337498       337378   PINK FLOYD           ANOTHER BRICK IN THE WALL
  6   337498             337528       337408   QUEEN                 BOHEMIAN RHAPSODY
  7   337528             3375b8       337498   TOTO                  HOLD THE LINE
  8   3375b8             337648       337528   KISS                   I WAS MADE FOR LOVIN' YOU
  9   337648             3376d8       3375b8   BON JOVI              LIVIN' ON A PRAYER
 10  3376d8             337768       337648   NIRVANA                SMELLS LIKE TEEN SPIRIT
 11  337768             3377f8       3376d8   DEEP PURPLE           SMOKE ON THE WATER
 12  3377f8             337888       337768   METALLICA             NOTHING ELSE MATTERS
 13  337888             337918       3377f8   THE ROLLING STONES    (I CAN'T GET NO) SATISFACTION
 14  337918             3379a8       337888   BRUCE SPRINGSTEEN     BORN IN THE U.S.A.
 15  3379a8             336258       337918   QUEEN                  WE WILL ROCK YOU
 16  336258             337a38       3379a8   LYNRYD SKYNYRD        FREE BIRD
 17  337a38             337ac8       336258   SURVIVOR              EYE OF THE TIGER
 18  337ac8             336218       337a38   THE CLASH              SHOULD I STAY OR SHOULD I GO
 19  336218             336418       337ac8   JIMI HENDRIX          HEY JOE
 20  336418             337b58       336218   FLEETWOOD MAC         LITTLE LIES
 21  337b58             3363d8       336418   AC/DC                  HIGHWAY TO HELL
 22  3363d8              0             337b58   THE POLICE             ROXANNE

Linked List contains 22 Entries
List counter 22 Entries
Current active Entry 3363d8
Entries of Linked List: 0 (0)
Entry Entry Address      Next      Previous      Data
-----
  1   300a38             3009a8           0   AC/DC                 BACK IN BLACK
  2   3009a8             300918       300a38   AC/DC                 HIGHWAY TO HELL
  3   300918             300888       3009a8   BON JOVI              LIVIN' ON A PRAYER
  4   300888             3007f8       300918   BRUCE SPRINGSTEEN     BORN IN THE U.S.A.
  5   3007f8             300768       300888   DEEP PURPLE           SMOKE ON THE WATER
  6   300768             337b58       3007f8   JOURNEY               DON'T STOP BELIEVIN'
  7   337b58             337ac8       300768   KISS                   I WAS MADE FOR LOVIN' YOU
  8   337ac8             337a38       337b58   NIRVANA                SMELLS LIKE TEEN SPIRIT
  9   337a38             3379a8       337ac8   PINK FLOYD           ANOTHER BRICK IN THE WALL
 10  3379a8             337918       337a38   QUEEN                 BOHEMIAN RHAPSODY
 11  337918             337888       3379a8   TOTO                  HOLD THE LINE
 12  337888             3363d8       337918   EAGLES                HOTEL CALIFORNIA
 13  3363d8             336418       337888   FLEETWOOD MAC         LITTLE LIES
 14  336418             3377f8       3363d8   JIMI HENDRIX          HEY JOE
 15  3377f8             336218       336418   LED ZEPPELIN          STAIRWAY TO HEAVEN
 16  336218             337768       3377f8   LYNRYD SKYNYRD        FREE BIRD
 17  337768             3376d8       336218   METALLICA             NOTHING ELSE MATTERS
 18  3376d8             337648       337768   QUEEN                  WE WILL ROCK YOU
 19  337648             3375b8       3376d8   SURVIVOR              EYE OF THE TIGER
 20  3375b8             336258       337648   THE CLASH              SHOULD I STAY OR SHOULD I GO
 21  336258             337528       3375b8   THE POLICE             ROXANNE
 22  337528              0             336258   THE ROLLING STONES    (I CAN'T GET NO) SATISFACTION

Linked List contains 22 Entries
```

## BREXX Source Arrays and Linked Lists

```
List counter 22 Entries
Current active Entry 337528
```

### LLWRITE(llist-number,dsn/ddname)

Writes all entries of a Linked List into an external dataset.

The dataset can be either a fully qualified Dataset Name or a pre-allocated DD Name.

returned is the number of written entries.

An example is contained in LLREAD

### LLREAD(dsn/ddname)

Reads all entries of an external dataset. The dataset can be either a fully qualified Dataset Name or a pre-allocated DD Name.

returned is the newly created Linked List Number(llist-number).

### Example

```
l11=llread("'pej.songs2'")
call l11list l11
say "Records written: "llwrite(l11,"'pej.temp'")
```

### Result

Entries of Linked List: 0 (0)					
Entry	Entry Address	Next	Previous	Data	
1	3371c8	337258	0	LED ZEPPELIN	STAIRWAY TO HEAVEN
2	337258	3372e8	3371c8	EAGLES	HOTEL CALIFORNIA
3	3372e8	337378	337258	AC/DC	BACK IN BLACK
4	337378	337408	3372e8	JOURNEY	DON'T STOP BELIEVIN'
5	337408	337498	337378	PINK FLOYD	ANOTHER BRICK IN THE WALL
6	337498	337528	337408	QUEEN	BOHEMIAN RHAPSODY
7	337528	3375b8	337498	TOTO	HOLD THE LINE
8	3375b8	337648	337528	KISS	I WAS MADE FOR LOVIN' YOU
9	337648	3376d8	3375b8	BON JOVI	LIVIN' ON A PRAYER
10	3376d8	337768	337648	NIRVANA	SMELLS LIKE TEEN SPIRIT
11	337768	3377f8	3376d8	DEEP PURPLE	SMOKE ON THE WATER
12	3377f8	337888	337768	METALLICA	NOTHING ELSE MATTERS
13	337888	337918	3377f8	THE ROLLING STONES	(I CAN'T GET NO) SATISFACTION
14	337918	3379a8	337888	BRUCE SPRINGSTEEN	BORN IN THE U.S.A.
15	3379a8	336358	337918	QUEEN	WE WILL ROCK YOU
16	336358	337a38	3379a8	LYNYRD SKYNYRD	FREE BIRD
17	337a38	337ac8	336358	SURVIVOR	EYE OF THE TIGER
18	337ac8	336318	337a38	THE CLASH	SHOULD I STAY OR SHOULD I GO
19	336318	336518	337ac8	JIMI HENDRIX	HEY JOE
20	336518	337b58	336318	FLEETWOOD MAC	LITTLE LIES
21	337b58	3364d8	336518	AC/DC	HIGHWAY TO HELL
22	3364d8	0	337b58	THE POLICE	ROXANNE

Records written: 22

### S2LL(array-number,[from],[to],[existing-linked-list],[“list-name”])

Copy a String Array into Linked List.

**from** (optional) starts the copying process at from.<sup>th</sup> entry.

**to** (optional) ends the copying process with to.<sup>th</sup> entry.

**existing-list** (optional) appending an existing Linked List, else a new one will be created

**list-name** (optional) name of the new/appended Linked List

returned is the Linked List Number(llist-number)

## BREXX Source Arrays and Linked Lists

### Example

```
s1=sread("'pej.songs2'")
call sList s1
ll2=s2ll(s1,,,, "LL Songs")
call llList(ll2)
call sfree(s1)
call llfree(ll2)
```

### Result

```

Entries of Source Array: 0
Entry  Data
-----
00001  LED ZEPPELIN          STAIRWAY TO HEAVEN
00002  EAGLES                HOTEL CALIFORNIA
00003  AC/DC                 BACK IN BLACK
00004  JOURNEY               DON'T STOP BELIEVIN'
00005  PINK FLOYD           ANOTHER BRICK IN THE WALL
00006  QUEEN                 BOHEMIAN RHAPSODY
00007  TOTO                  HOLD THE LINE
00008  KISS                  I WAS MADE FOR LOVIN' YOU
00009  BON JOVI              LIVIN' ON A PRAYER
00010  NIRVANA               SMELLS LIKE TEEN SPIRIT
00011  DEEP PURPLE           SMOKE ON THE WATER
00012  METALLICA             NOTHING ELSE MATTERS
00013  THE ROLLING STONES   (I CAN'T GET NO) SATISFACTION
00014  BRUCE SPRINGSTEEN    BORN IN THE U.S.A.
00015  QUEEN                 WE WILL ROCK YOU
00016  LYNYRD SKYNYRD       FREE BIRD
00017  SURVIVOR              EYE OF THE TIGER
00018  THE CLASH             SHOULD I STAY OR SHOULD I GO
00019  JIMI HENDRIX          HEY JOE
00020  FLEETWOOD MAC        LITTLE LIES
00021  AC/DC                 HIGHWAY TO HELL
00022  THE POLICE            ROXANNE

Entries of Linked List: 0 (LL Songs)
Entry Entry Address      Next      Previous      Data
-----
  1   337138      3371c8          0   LED ZEPPELIN          STAIRWAY TO HEAVEN
  2   3371c8      337258      337138   EAGLES                HOTEL CALIFORNIA
  3   337258      3372e8      3371c8   AC/DC                 BACK IN BLACK
  4   3372e8      337378      337258   JOURNEY               DON'T STOP BELIEVIN'
  5   337378      337408      3372e8   PINK FLOYD           ANOTHER BRICK IN THE WALL
  6   337408      337498      337378   QUEEN                 BOHEMIAN RHAPSODY
  7   337498      337528      337408   TOTO                  HOLD THE LINE
  8   337528      3375b8      337498   KISS                  I WAS MADE FOR LOVIN' YOU
  9   3375b8      337648      337528   BON JOVI              LIVIN' ON A PRAYER
 10  337648      3376d8      3375b8   NIRVANA               SMELLS LIKE TEEN SPIRIT
 11  3376d8      337768      337648   DEEP PURPLE           SMOKE ON THE WATER
 12  337768      3377f8      3376d8   METALLICA             NOTHING ELSE MATTERS
 13  3377f8      337888      337768   THE ROLLING STONES   (I CAN'T GET NO) SATISFACTION
 14  337888      337918      3377f8   BRUCE SPRINGSTEEN    BORN IN THE U.S.A.
 15  337918      3362d8      337888   QUEEN                 WE WILL ROCK YOU
 16  3362d8      3379a8      337918   LYNYRD SKYNYRD       FREE BIRD
 17  3379a8      337a38      3362d8   SURVIVOR              EYE OF THE TIGER
 18  337a38      336618      3379a8   THE CLASH             SHOULD I STAY OR SHOULD I GO
 19  336618      3365d8      337a38   JIMI HENDRIX          HEY JOE
 20  3365d8      337ac8      336618   FLEETWOOD MAC        LITTLE LIES
 21  337ac8      336598      3365d8   AC/DC                 HIGHWAY TO HELL
 22  336598          0      337ac8   THE POLICE            ROXANNE

Linked List contains 22 Entries
List counter 22 Entries
Current active Entry 336598
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