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Paul S. McCarthy and Eric Sunshine -- October 1, 1995

MiscIntList

Inherits From: Object

Declared In: MiscIntList.h

Class Description

An MiscIntList provides a simple interface to an array of integers. The class provides methods sorting the array as well as general list maintenance. Methods are provided for conversion to and from a string representation of the numbers contained in the list.

This class is used by ;MiscTableScroll.rtf;;-MiscTableScroll as a means to communicate lists of integers with the client. The string conversion methods provide a simple interface for generating data suitable for storage by the NeXT defaults system. For instance, to store the user's column ordering preference in NeXT defaults, the client could ask MiscTableScroll to fill an MiscIntList with the current ordering, convert that to a string representation, and then save it to NeXT defaults.

Instance Variables

Storage* array;

array

The storage for the list of integers.

Method Types

Initializing and freeing

```
;ΜισχΙντΛιστ.ρτφ;ινιτ;← - init  
;MiscIntList.rtf;initFromString;;¬ ± initFromString:  
;ΜισχΙντΛιστ.ρτφ;φρεε;← - free  
;MiscIntList.rtf;copyFromZone;;¬ ± copyFromZone:
```

Querying and emptying

```
;ΜισχΙντΛιστ.ρτφ;χουντ;← - count  
;ΜισχΙντΛιστ.ρτφ;εμπτψ;← - empty
```

Manipulating by index

```
;ΜισχΙντΛιστ.ρτφ;ιντΑτ;;← - intAt:  
;ΜισχΙντΛιστ.ρτφ;αδδΙντ;;← - addInt:
```

	<code>;MiscIntList.rtf;addIntList:;¬ ± addIntList:</code>
	<code>;ΜισχIntList.ρτφ;ινσερτInt:ατ:;← - insertInt:at:</code>
	<code>;ΜισχIntList.ρτφ;ρεμοσπεIntAt:;← - removeIntAt:</code>
	<code>;ΜισχIntList.ρτφ;ρεπλαχεIntAt:ωιτη:;← - replaceIntAt:with:</code>
Sorting	<code>;ΜισχIntList.ρτφ;σορτ;← - sort</code> <code>;ΜισχIntList.ρτφ;σορτΥσιγγ:δατα:;← - sortUsing:data:</code>
String conversions	<code>;ΜισχIntList.ρτφ;ρεαδΦρομString:;← - readFromString:</code> <code>;ΜισχIntList.ρτφ;ωριτεToString;← - writeToString</code> <code>;ΜισχIntList.ρτφ;ωριτεToString:σιζε:;← - writeToString:size:</code> <code>;ΜισχIntList.ρτφ;ωριτεToString:σιζε:χανΕξπανδ:;← - writeToString:size:canExpand:</code>
Low-level access	<code>;ΜισχIntList.ρτφ;ραωΔατα;← - rawData</code>

Instance Methods

addInt:;¬addInt:

- (void)**addInt:(int)value**

Appends *value* to the list. Equivalent to: `-insertInt:value at:[self count]`.

See also: `;MiscIntList.rtf;addIntList:;¬ ± addIntList:`, `;MiscIntList.rtf;insertInt:at:;¬ ±`

insertIntAt; ;MiscIntList.rtf;removeIntAt;; \neg \pm removeIntAt:

addIntList; \neg addIntList:

- (void)**addIntList**:(MiscIntList*)*list*

Appends the contents of *list* to the end of the receiver.

See also: ;MiscIntList.rtf;addInt;; \neg \pm addInt:

copyFromZone; \neg copyFromZone:

- **copyFromZone**:(NXZone*)*zone*

Allocates, initializes, and returns a copy of the receiver.

See also: - **copy** (Object)

count; \neg count

- (unsigned int)**count**

Returns the number of integers in the list.

empty;¬empty

- **empty**

Empties the list. Returns **self**.

See also: ;MiscIntList.rtf;free;¬ ± free

free;¬free

- **free**

Frees the storage used by the list.

See also: ;MiscIntList.rtf;init;¬ ± init, ;MiscIntList.rtf;empty;¬ ± empty

init;¬init

- **init**

Initializes the storage used by the list. This method is the designated initializer. Returns **self**.

See also: ;MiscIntList.rtf;initFromString;¬ ± initFromString:, ;MiscIntList.rtf;free;¬ ± free

initFromString;¬initFromString:

- **initFromString:**(char const*)*s*

Initializes the list by calling **;MiscIntList.rtf;init;¬-init** and then fills it from the string *s* using **;MiscIntList.rtf;readFromString;¬-readFromString:**. Returns **self**.

See also: **;MiscIntList.rtf;init;¬ ± init**, **;MiscIntList.rtf;free;¬ ± free**, **;MiscIntList.rtf;readFromString;¬ ± readFromString:**

insertInt:at;¬insertInt:at:

- (void)**insertInt:**(int)*value*
at:(unsigned int)*pos*

Inserts *value* at position *pos* in the list. The list is expanded if needed. Intervening slots are initialized to zero.

See also: **;MiscIntList.rtf;addInt;¬ ± addInt:**, **;MiscIntList.rtf;removeIntAt;¬ ± removeIntAt:**, **;MiscIntList.rtf;replaceIntAt:with;¬ ± replaceIntAt:with:**

intAt;¬intAt:

- (int)**intAt:**(unsigned int)*pos*

Returns the integer at position *pos* or 0 if *pos* is out-of-range..

rawData;¬rawData

- (int const*)**rawData**

Returns a pointer to the actual array of integers. This allows low-level, fast access to the data when one needs to avoid the overhead of Objective-C messages. The array should not be modified.

readFromString;¬readFromString:

- (int)**readFromString:(char const*)s**

Fills the list with numbers from the string *s*. This method first empties the list with **¬MiscIntList.rtf;empty;¬empty**, then parses numbers from the string *s* and adds them to the list with **¬MiscIntList.rtf;addInt;¬addInt:**. The string should be a list of white-space delimited numbers. Returns the number of integers read from the string.

See also: **¬MiscIntList.rtf;initWithString;¬ ± initWithString:**, **¬MiscIntList.rtf;writeToString;¬ ± writeToString**, **¬MiscIntList.rtf;writeToString:size;¬ ± writeToString:size:**, **¬MiscIntList.rtf;writeToString:size:canExpand;¬ ± writeToString:size:canExpand:**

removeIntAt;¬removeIntAt:

- (void)**removeIntAt:(unsigned int)pos**

Removes the integer at position *pos* from the list. Nothing happens if *pos* is beyond the end of the list.

See also: ;MiscIntList.rtf;addInt:;¬ ± addInt:, ;MiscIntList.rtf;insertInt:at:;¬ ± insertInt:at:,
;MiscIntList.rtf;removeIntAt:;¬ ± removeIntAt:

replaceIntAt:with:;¬replaceIntAt:with:

- (void)replaceIntAt:(unsigned int)*pos*
with:(int)*value*

Replaces the integer at position *pos* with *value*. If *pos* is out-of-range then nothing is replaced.

See also: ;MiscIntList.rtf;addInt:;¬ ± addInt:, ;MiscIntList.rtf;insertInt:at:;¬ ± insertInt:at:,
;MiscIntList.rtf;removeIntAt:;¬ ± removeIntAt:

sort;¬sort

- (void)sort

Sorts the list in ascending numeric order.

See also: ;MiscIntList.rtf;sortUsing:data:;¬ ± sortUsing:data:

sortUsing:data:;¬sortUsing:data:

- (void)**sortUsing**:(MiscIntListCompareFunc)*cmp_func*
data:(void*)*data*

Sort the list of integers using the comparison function *cmp_func*. If *cmp_func* is NULL then the list is sorted in standard ascending numeric order. The meaning of the *data* argument is unspecified and is determined by the comparison function *cmp_func* to which it is passed unmolested.

`;MiscIntList.rtf;MiscIntListCompareFunc;-MiscIntListCompareFunc` is a typedef which takes as arguments the *data* variable plus two integers for comparison. It should return a negative value if the first integer is less than the second, a positive value if the first integer is greater than the second, or zero if the integers are equal.

```
typedef int (*MiscIntListCompareFunc)( void* userData, int x, int y );
```

See also: `;MiscIntList.rtf;sort;` $\neg \pm$ `sort`

writeToString; \neg **writeToString**

- (char*)**writeToString**

Allocates a string using `malloc()` and writes a string representation of the contents of the list to it. It is the client's responsibility to `free()` the returned string. Equivalent to: `-writeToString:0 size:0 canExpand:YES`. Returns the newly allocated buffer.

See also: `;MiscIntList.rtf;readFromString;` $\neg \pm$ `readFromString;` `;MiscIntList.rtf;writeToString:size;` $\neg \pm$ `writeToString:size;` `;MiscIntList.rtf;writeToString:size:canExpand;` $\neg \pm$ `writeToString:size:canExpand:`

writeToString:size:;¬writeToString:size:

- (char*)**writeToString:(char*)buff**
size:(int)buff_size

Writes a string representation of the contents of the list to the buffer *buff* of size *buff_size*. Equivalent to:
`-writeToString:buff size:buff_size canExpand:NO`. Returns *buff* or 0 if *buff_size* wasn't large enough to hold the string.

See also: ;MiscIntList.rtf;readFromString:;¬ ± readFromString:, ;MiscIntList.rtf;writeToString;¬ ± writeToString, ;MiscIntList.rtf;writeToString:size:canExpand:;¬ ± writeToString:size:canExpand:

writeToString:size:canExpand:;¬writeToString:size:canExpand:

- (char*)**writeToString:(char*)buff**
size:(int)buff_size
canExpand:(BOOL)flag

Writes a white-space delimited, NULL terminated, printable, string representation of the contents of the list to *buff*. *buff_size* is the maximum number of bytes available in *buff*. If the *canExpand* flag is YES then *buff* is expanded using `realloc()` if it is otherwise too small. If *canExpand* is NO then the string is truncated to *buff_size* and is not NULL terminated. If *buff* is NULL and *canExpand* is YES then a buffer is allocated with `malloc()` and returned. Returns 0 if *canExpand* is NO and the string was truncated, *buff* if the string was less than *buff_size* characters, or a buffer allocated with `realloc()` if the buffer was expanded. It is the caller's responsibility to `free()`

the returned buffer if *canExpand* was YES.

See also: ;MiscIntList.rtf;readFromString;¬ ± readFromString; ;MiscIntList.rtf;writeToString;¬ ± writeToString; ;MiscIntList.rtf;writeToString:size;¬ ± writeToString:size:

Constants and Defined Types

```
MiscIntListCompareFunc;¬typedef int (*MiscIntListCompareFunc)( void* userData, int x, int y );
```