

## LinkedList

1

Generated by Doxygen 1.8.1.2

Thu Mar 21 2013 22:33:12



# Contents

<b>1</b>	<b>Data Structure Index</b>	<b>1</b>
1.1	Data Structures . . . . .	1
<b>2</b>	<b>File Index</b>	<b>3</b>
2.1	File List . . . . .	3
<b>3</b>	<b>Data Structure Documentation</b>	<b>5</b>
3.1	linked_list Struct Reference . . . . .	5
3.1.1	Detailed Description . . . . .	5
3.1.2	Field Documentation . . . . .	5
3.1.2.1	head . . . . .	5
3.1.2.2	last . . . . .	5
3.1.2.3	runner . . . . .	5
3.1.2.4	runnerpos . . . . .	5
3.1.2.5	size . . . . .	6
3.2	node Struct Reference . . . . .	6
3.2.1	Detailed Description . . . . .	6
3.2.2	Field Documentation . . . . .	6
3.2.2.1	content . . . . .	6
3.2.2.2	next . . . . .	6
3.2.2.3	previous . . . . .	6
<b>4</b>	<b>File Documentation</b>	<b>7</b>
4.1	/home/paul/Git_home/Util/LinkedList/LibLinkedList/Debug/LinkedList.d File Reference . . . . .	7
4.2	/home/paul/Git_home/Util/LinkedList/LibLinkedList/LinkedList.c File Reference . . . . .	7
4.2.1	Function Documentation . . . . .	7
4.2.1.1	abs . . . . .	7
4.2.1.2	init_list . . . . .	7
4.2.1.3	list_add_all . . . . .	7
4.2.1.4	list_append . . . . .	7
4.2.1.5	list_get . . . . .	8
4.2.1.6	list_insert . . . . .	8

---

4.2.1.7	<a href="#">list_remove</a>	8
4.2.1.8	<a href="#">run</a>	8
4.3	<a href="#">/home/paul/Git_home/Util/LinkedList/LibLinkedList/LinkedList.h File Reference</a>	8
4.3.1	<a href="#">Typedef Documentation</a>	8
4.3.1.1	<a href="#">linked_list_t</a>	8
4.3.1.2	<a href="#">node_t</a>	8
4.3.1.3	<a href="#">plinked_list</a>	8
4.3.1.4	<a href="#">pnode</a>	8
4.3.2	<a href="#">Function Documentation</a>	9
4.3.2.1	<a href="#">init_list</a>	9
4.3.2.2	<a href="#">list_add_all</a>	9
4.3.2.3	<a href="#">list_append</a>	9
4.3.2.4	<a href="#">list_get</a>	9
4.3.2.5	<a href="#">list_insert</a>	9
4.3.2.6	<a href="#">list_remove</a>	9

# Chapter 1

## Data Structure Index

### 1.1 Data Structures

Here are the data structures with brief descriptions:

<a href="#">linked_list</a>	5
<a href="#">node</a>	6



## Chapter 2

# File Index

### 2.1 File List

Here is a list of all files with brief descriptions:

/home/paul/Git_home/Util/LinkedList/LibLinkedList/ <a href="#">LinkedList.c</a> . . . . .	7
/home/paul/Git_home/Util/LinkedList/LibLinkedList/ <a href="#">LinkedList.h</a> . . . . .	8
/home/paul/Git_home/Util/LinkedList/LibLinkedList/Debug/ <a href="#">LinkedList.d</a> . . . . .	7





## Chapter 3

# Data Structure Documentation

### 3.1 linked\_list Struct Reference

```
#include <LinkedList.h>
```

#### Data Fields

- `pnode head`
- `pnode last`
- `pnode runner`
- `int runnerpos`
- `int size`

#### 3.1.1 Detailed Description

Represents the actual list. Three pointers are defined: head, last and a runner. runnerpos defines the current index of the node\* runner. size defines the current size of the list.

#### 3.1.2 Field Documentation

##### 3.1.2.1 `pnode head`

Pointer to the first element of the list.

##### 3.1.2.2 `pnode last`

Pointer to the last element of the list.

##### 3.1.2.3 `pnode runner`

Pointer to some element of the list. The current position is specified in runnerpos.

##### 3.1.2.4 `int runnerpos`

Defines the current position of runner.

### 3.1.2.5 int size

Stores the list's current number of elements.

The documentation for this struct was generated from the following file:

- /home/paul/Git\_home/Util/LinkedList/LibLinkedList/[LinkedList.h](#)

## 3.2 node Struct Reference

```
#include <LinkedList.h>
```

### Data Fields

- struct [node](#) \* [next](#)
- struct [node](#) \* [previous](#)
- void \* [content](#)

### 3.2.1 Detailed Description

Represents the data node. Pointer to following and previous node are stored.

### 3.2.2 Field Documentation

#### 3.2.2.1 void\* content

The actual content of this Node. The size only knows the creator of this object. If there are dynamically sized objects to be stored here with corresponding size it is recommended to create a struct with these informations and store a pointer to that struct in a Node.

#### 3.2.2.2 struct node\* next

Pointer to the following Node.

#### 3.2.2.3 struct node\* previous

Pointer to the previous Node. previous->next should be this Node.

The documentation for this struct was generated from the following file:

- /home/paul/Git\_home/Util/LinkedList/LibLinkedList/[LinkedList.h](#)

## Chapter 4

# File Documentation

### 4.1 /home/paul/Git\_home/Util/LinkedList/LibLinkedList/Debug/LinkedList.d File Reference

### 4.2 /home/paul/Git\_home/Util/LinkedList/LibLinkedList/LinkedList.c File Reference

```
#include "LinkedList.h"
#include <stdlib.h>
#include <stdio.h>
```

#### Functions

- int [abs](#) (int a)
- void [run](#) ([plinked\\_list](#) list, int position)
- void [list\\_append](#) ([plinked\\_list](#) list, void \*value)
- void [list\\_insert](#) ([plinked\\_list](#) list, int position, void \*value)
- void [list\\_remove](#) ([plinked\\_list](#) list, int position)
- void \* [list\\_get](#) ([plinked\\_list](#) list, int position)
- void [list\\_add\\_all](#) ([plinked\\_list](#) list, void \*\*elems, int count)
- [plinked\\_list](#) [init\\_list](#) ()

#### 4.2.1 Function Documentation

4.2.1.1 int [abs](#) ( int a ) [inline]

4.2.1.2 [plinked\\_list](#) [init\\_list](#) ( )

Initializes an empty list. Works like an constructor.

4.2.1.3 void [list\\_add\\_all](#) ( [plinked\\_list](#) list, void \*\* elems, int count )

Inserts all elements of elems into the list. count has to be defined.

4.2.1.4 void [list\\_append](#) ( [plinked\\_list](#) list, void \* value )

Appends value to the end of the list.

#### 4.2.1.5 void\* list\_get ( plinked\_list list, int position )

Returns a pointer to the object at position.

#### 4.2.1.6 void list\_insert ( plinked\_list list, int position, void \* value )

Inserts value into the list at the specified position. The current object at position will be at (position+1) after this operation.

#### 4.2.1.7 void list\_remove ( plinked\_list list, int position )

Removes the element of the list at the specified position.

#### 4.2.1.8 void run ( plinked\_list list, int position )

Run with the list->runner to the position

### 4.3 /home/paul/Git\_home/Util/LinkedList/LibLinkedList/LinkedList.h File Reference

#### Data Structures

- struct [node](#)
- struct [linked\\_list](#)

#### Typedefs

- typedef struct [node](#) [node\\_t](#)
- typedef [node\\_t](#) \* [pnode](#)
- typedef struct [linked\\_list](#) [linked\\_list\\_t](#)
- typedef [linked\\_list\\_t](#) \* [plinked\\_list](#)

#### Functions

- void [list\\_append](#) ([plinked\\_list](#) list, void \*value)
- void [list\\_insert](#) ([plinked\\_list](#) list, int position, void \*value)
- void [list\\_remove](#) ([plinked\\_list](#) list, int position)
- void \* [list\\_get](#) ([plinked\\_list](#) list, int position)
- void [list\\_add\\_all](#) ([plinked\\_list](#) list, void \*\*elems, int count)
- [plinked\\_list](#) [init\\_list](#) ()

#### 4.3.1 Typedef Documentation

##### 4.3.1.1 typedef struct [linked\\_list](#) [linked\\_list\\_t](#)

##### 4.3.1.2 typedef struct [node](#) [node\\_t](#)

##### 4.3.1.3 typedef [linked\\_list\\_t](#)\* [plinked\\_list](#)

##### 4.3.1.4 typedef [node\\_t](#)\* [pnode](#)

## 4.3.2 Function Documentation

### 4.3.2.1 `plinked_list init_list ( )`

Initializes an empty list. Works like an constructor.

### 4.3.2.2 `void list_add_all ( plinked_list list, void ** elems, int count )`

Inserts all elements of *elems* into the list. *count* has to be defined.

### 4.3.2.3 `void list_append ( plinked_list list, void * value )`

Appends *value* to the end of the list.

### 4.3.2.4 `void* list_get ( plinked_list list, int position )`

Returns a pointer to the object at *position*.

### 4.3.2.5 `void list_insert ( plinked_list list, int position, void * value )`

Inserts *value* into the list at the specified *position*. The current object at *position* will be at (*position*+1) after this operation.

### 4.3.2.6 `void list_remove ( plinked_list list, int position )`

Removes the element of the list at the specified *position*.

# Index

/home/paul/Git\_home/Util/LinkedList/LibLinkedList/  
Debug/LinkedList.d, [7](#)  
/home/paul/Git\_home/Util/LinkedList/LibLinkedList/  
LinkedList.c, [7](#)  
/home/paul/Git\_home/Util/LinkedList/LibLinkedList/  
LinkedList.h, [8](#)

abs  
    LinkedList.c, [7](#)

content  
    node, [6](#)

head  
    linked\_list, [5](#)

init\_list  
    LinkedList.c, [7](#)  
    LinkedList.h, [9](#)

last  
    linked\_list, [5](#)

linked\_list, [5](#)  
    head, [5](#)  
    last, [5](#)  
    runner, [5](#)  
    runnerpos, [5](#)  
    size, [5](#)

linked\_list\_t  
    LinkedList.h, [8](#)

LinkedList.c  
    abs, [7](#)  
    init\_list, [7](#)  
    list\_add\_all, [7](#)  
    list\_append, [7](#)  
    list\_get, [7](#)  
    list\_insert, [8](#)  
    list\_remove, [8](#)  
    run, [8](#)

LinkedList.h  
    init\_list, [9](#)  
    linked\_list\_t, [8](#)  
    list\_add\_all, [9](#)  
    list\_append, [9](#)  
    list\_get, [9](#)  
    list\_insert, [9](#)  
    list\_remove, [9](#)  
    node\_t, [8](#)  
    plinked\_list, [8](#)  
    pnode, [8](#)

list\_add\_all  
    LinkedList.c, [7](#)  
    LinkedList.h, [9](#)

list\_append  
    LinkedList.c, [7](#)  
    LinkedList.h, [9](#)

list\_get  
    LinkedList.c, [7](#)  
    LinkedList.h, [9](#)

list\_insert  
    LinkedList.c, [8](#)  
    LinkedList.h, [9](#)

list\_remove  
    LinkedList.c, [8](#)  
    LinkedList.h, [9](#)

next  
    node, [6](#)

node, [6](#)  
    content, [6](#)  
    next, [6](#)  
    previous, [6](#)

node\_t  
    LinkedList.h, [8](#)

plinked\_list  
    LinkedList.h, [8](#)

pnode  
    LinkedList.h, [8](#)

previous  
    node, [6](#)

run  
    LinkedList.c, [8](#)

runner  
    linked\_list, [5](#)

runnerpos  
    linked\_list, [5](#)

size  
    linked\_list, [5](#)