Projet C

1.0.0

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Data Structure Index

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File Index

2.1 File List

Here is a list of all documented files with brief descriptions:

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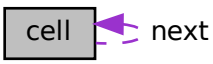
Chapter 3

Data Structure Documentation

3.1 cell Struct Reference

Collaboration diagram for cell:



Data Fields

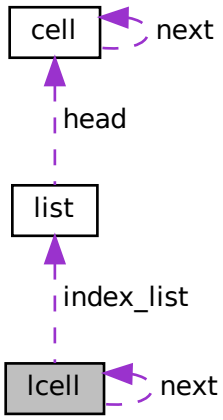
- char * **fname**
- char * **lname**
- char * **zip**
- struct cell * **next**

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

- src/list.h

3.2 lcell Struct Reference

Collaboration diagram for lcell:



Data Fields

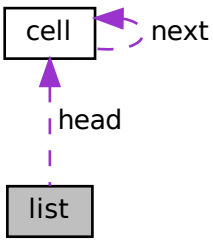
- char * **index**
- struct list * **index_list**
- struct lcell * **next**

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

- src/llist.h

3.3 list Struct Reference

Collaboration diagram for list:



Data Fields

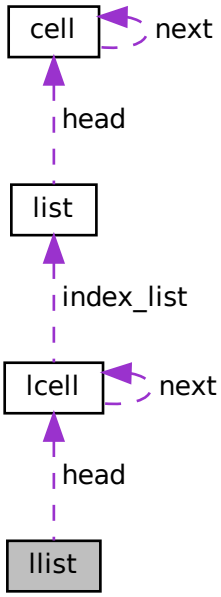
- struct cell * **head**

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

- src/list.h

3.4 llist Struct Reference

Collaboration diagram for llist:



Data Fields

- struct lcell * **head**

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

- src/llist.h

Chapter 4

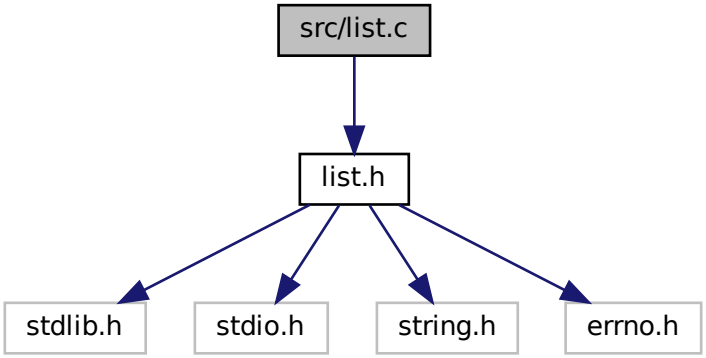
File Documentation

4.1 src/list.c File Reference

This is the list.c file.

```
#include "list.h"
```

Include dependency graph for list.c:



Functions

- struct list ∗ new_list ()
- void free_list (struct list ∗lst)
- void print_cell (struct cell ∗c)
- void print_list (struct list ∗lst)
- struct cell ∗ make_cell (char ∗fname, char ∗lname, char ∗zip)
- void push (struct list ∗lst, struct cell ∗c)
- void pop (struct list ∗lst, struct cell ∗out)
- struct cell ∗ make_cell_from_line (char ∗line)
- struct list ∗ load_file (char ∗file_name)
- int compare_cells (struct cell ∗a, struct cell ∗b)
- void insert (struct list ∗lst, struct cell ∗c)

4.1.1 Detailed Description

This is the list.c file.

Author

Mathis URIEN (LBF38)

Version

1.0.0

Date

2022-10-19

Copyright

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4.1.2 Function Documentation

4.1.2.1 compare_cells()

```
int compare_cells (
            struct cell * a,
            struct cell * b )
```

Parameters

a	
b	

Returns

int

4.1.2.2 free_list()

```
void free_list (
            struct list * lst )
```

Parameters

lst	

4.1.2.3 insert()

```
void insert (
            struct list * lst,
            struct cell * c )
```

Parameters

lst	
c	

4.1.2.4 load_file()

```
struct list* load_file (
            char * file_name )
```

Parameters

file_name	

Returns

struct list*

4.1.2.5 make_cell()

```
struct cell* make_cell (
            char * fname,
            char * lname,
            char * zip )
```

Parameters

fname	
lname	
zip	

Returns

struct cell*

4.1.2.6 make_cell_from_line()

```
struct cell* make_cell_from_line (
            char * line )
```

Parameters

line	

Returns

struct cell*

4.1.2.7 new_list()

```
struct list* new_list ( )
```

Returns

struct list*

4.1.2.8 pop()

```
void pop (
            struct list * lst,
            struct cell * out )
```

Parameters

lst	
out	

4.1.2.9 print_cell()

```
void print_cell (
            struct cell * c )
```

Parameters

c	

4.1.2.10 print_list()

```
void print_list (
            struct list * lst )
```

Parameters

lst	

4.1.2.11 push()

```
void push (
            struct list * lst,
            struct cell * c )
```

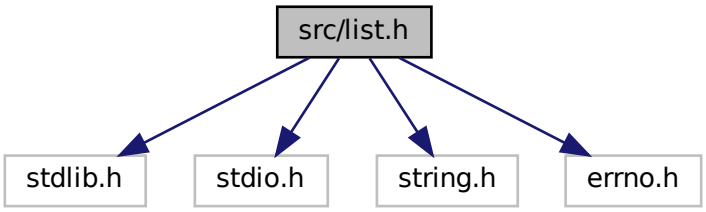
Parameters

lst	
c	

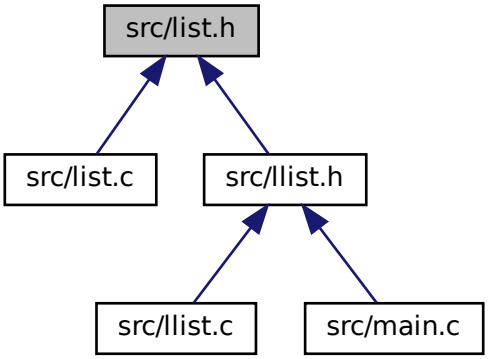
4.2 src/list.h File Reference

```
#include <stdlib.h>
#include <stdio.h>
#include <string.h>
#include <errno.h>
```

Include dependency graph for list.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct list
- struct cell

Macros

- #define **NAME_LENGTH** 40
- #define **ZIP_LENGTH** 10

Functions

- struct list ∗ new_list ()
- void free_list (struct list ∗lst)
- void print_cell (struct cell ∗c)
- void print_list (struct list ∗lst)
- struct cell ∗ make_cell (char ∗fname, char ∗lname, char ∗zip)
- struct cell ∗ make_cell_from_line (char ∗line)
- void push (struct list ∗lst, struct cell ∗c)
- void pop (struct list ∗lst, struct cell ∗out)
- int compare_cells (struct cell ∗a, struct cell ∗b)
- void insert (struct list ∗lst, struct cell ∗c)
- struct list ∗ load_file (char ∗file_name)

4.2.1 Detailed Description

Author

Mathis URIEN (lbf38)

Version

1.0.0

Date

2022-10-19

Copyright

Copyright (c) 2022

4.2.2 Function Documentation

4.2.2.1 compare_cells()

```
int compare_cells (
            struct cell * a,
            struct cell * b )
```

Parameters

a	
b	

Returns

int

4.2.2.2 free_list()

```
void free_list (
            struct list * lst )
```

Parameters

lst	

4.2.2.3 insert()

```
void insert (
            struct list * lst,
            struct cell * c )
```

Parameters

lst	
c	

4.2.2.4 load_file()

```
struct list* load_file (
            char * file_name )
```

Parameters

file_name	

Returns

struct list*

4.2.2.5 make_cell()

```
struct cell* make_cell (
            char * fname,
```

```
            char * lname,
            char * zip )
```

Parameters

fname	
lname	
zip	

Returns

struct cell*

4.2.2.6 make_cell_from_line()

```
struct cell* make_cell_from_line (
            char * line )
```

Parameters

line	

Returns

struct cell*

4.2.2.7 new_list()

```
struct list* new_list ( )
```

Returns

struct list*

4.2.2.8 pop()

```
void pop (
            struct list * lst,
            struct cell * out )
```

Parameters

lst	
out	

4.2.2.9 print_cell()

```
void print_cell (
            struct cell * c )
```

Parameters

c	

4.2.2.10 print_list()

```
void print_list (
            struct list * lst )
```

Parameters

lst	

4.2.2.11 push()

```
void push (
            struct list * lst,
            struct cell * c )
```

Parameters

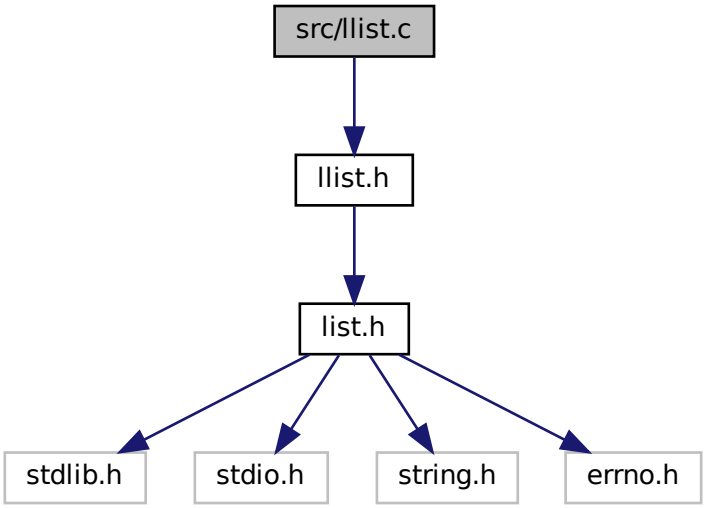
lst	
c	

4.3 src/llist.c File Reference

This is the llist.c file.

```
#include "llist.h"
```

Include dependency graph for llist.c:



Functions

- struct llist * new_llist ()

  new_llist allocates memory for a new llist and returns its pointer.
- void free_llist (struct llist *llst)
- void print_lcell (struct lcell *lcell)
- void print_llist (struct llist *llst)
- struct lcell * make_lcell (struct list *index_list, struct cell *c)
- int compare_lcells (struct lcell *lcellule, struct cell *c)

  Compare cells to the index to insert it to the right place.
- void insert_optimized (struct llist *llst, struct cell *c)

  Add the cell to the llist respecting alphabetical order of names/lnames and inserting into the right index to optimize the llist.
- struct llist * load_file_optimized (char *file_name)

  This is a brief description of load_file_optimized.

4.3.1 Detailed Description

This is the llist.c file.

Author

Mathis URIEN (LBF38)

Version

1.0.0

Date

2022-10-19

Copyright

4.3.2 Function Documentation

4.3.2.1 compare_lcells()

```
int compare_lcells (
            struct lcell * lcellule,
            struct cell * c )
```

Compare cells to the index to insert it to the right place.

Parameters

lcellule	
c	

Returns

4.3.2.2 free_llist()

```
void free_llist (
            struct llist * llst )
```

Parameters

llst	

4.3.2.3 insert_optimized()

```
void insert_optimized (
            struct llist * llst,
            struct cell * c )
```

Add the cell to the llist respecting alphabetical order of names/lnames and inserting into the right index to optimize the llist.

Parameters

llst	
c	

4.3.2.4 load_file_optimized()

```
struct llist* load_file_optimized (
            char * file_name )
```

This is a brief description of load_file_optimized.

Load the contents of a file in a sorted list.

4.3.2.5 make_lcell()

```
struct lcell* make_lcell (
            struct list * index_list,
            struct cell * c )
```

Parameters

index_list	
c	

Returns

struct lcell*

4.3.2.6 new_llist()

```
struct llist* new_llist ( )
```

new_llist allocates memory for a new llist and returns its pointer.

Allocate memory for a llist structure and return the pointer.

Returns

struct llist*

4.3.2.7 print_lcell()

```
void print_lcell (
            struct lcell * lcell )
```

Parameters

lcell	

4.3.2.8 print_llist()

```
void print_llist (
            struct llist * llst )
```

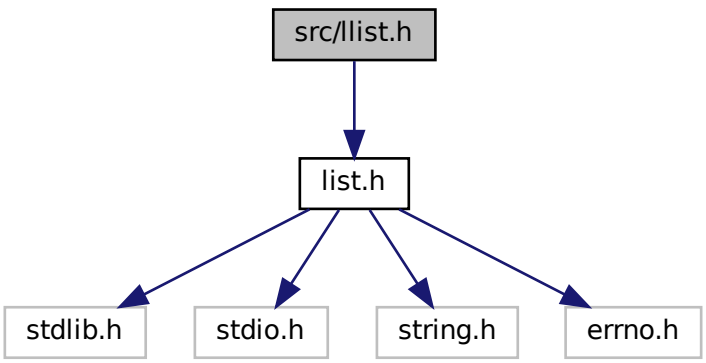
Parameters

llst	

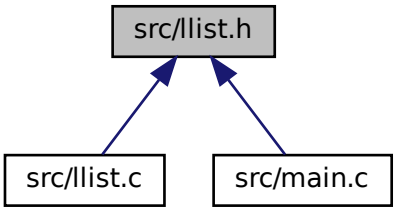
4.4 src/llist.h File Reference

```
#include "list.h"
```

Include dependency graph for llist.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct llist
- struct lcell

Functions

- struct llist * new_llist ()

  Allocate memory for a llist structure and return the pointer.
- void free_llist (struct llist *llst)
- void print_lcell (struct lcell *lcell)
- void print_llist (struct llist *llst)
- struct lcell * make_lcell (struct list *index_list, struct cell *c)
- int compare_lcells (struct lcell *lcellule, struct cell *c)

  Compare cells to the index to insert it to the right place.
- void insert_optimized (struct llist *llst, struct cell *c)

  Add the cell to the llist respecting alphabetical order of names/lnames and inserting into the right index to optimize the llist.
- struct llist * load_file_optimized (char *file_name)

  Load the contents of a file in a sorted list.

4.4.1 Detailed Description

Author

Mathis URIEN (LBF38)

Version

1.0.0

Date

2022-10-19

Copyright

4.4.2 Function Documentation

4.4.2.1 compare_lcells()

```
int compare_lcells (
            struct lcell * lcellule,
            struct cell * c )
```

Compare cells to the index to insert it to the right place.

Parameters

lcellule	
c	

Returns

int

Parameters

lcellule	
c	

Returns

4.4.2.2 free_llist()

```
void free_llist (
            struct llist * llst )
```

Parameters

llst	

4.4.2.3 insert_optimized()

```
void insert_optimized (
            struct llist * llst,
            struct cell * c )
```

Add the cell to the llist respecting alphabetical order of names/lnames and inserting into the right index to optimize the llist.

Parameters

llst	
c	

4.4.2.4 load_file_optimized()

```
struct llist* load_file_optimized (
            char * file_name )
```

Load the contents of a file in a sorted list.

Parameters

file_name	

Returns

struct llist*

Load the contents of a file in a sorted list.

4.4.2.5 make_lcell()

```
struct lcell* make_lcell (
            struct list * index_list,
            struct cell * c )
```

Parameters

index_list	
c	

Returns

struct lcell*

4.4.2.6 new_llist()

```
struct llist* new_llist ( )
```

Allocate memory for a llist structure and return the pointer.

Returns

struct llist*

Allocate memory for a llist structure and return the pointer.

Returns

struct llist*

4.4.2.7 print_lcell()

```
void print_lcell (
            struct lcell * lcell )
```

Parameters

lcell	

4.4.2.8 print_llist()

```
void print_llist (
            struct llist * llst )
```

Parameters

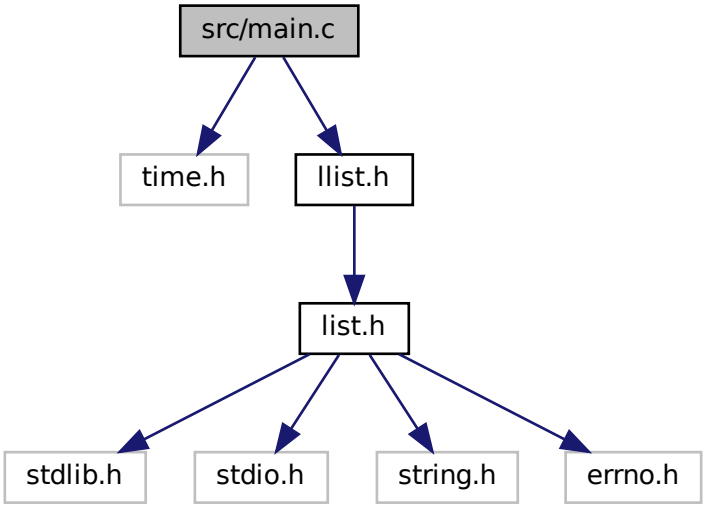
llst	

4.5 src/main.c File Reference

This is the main file used to launch the methods for loading files.

```
#include <time.h>
#include "llist.h"
```

Include dependency graph for main.c:



Functions

- int main (int argc, char ∗argv[ ])

4.5.1 Detailed Description

This is the main file used to launch the methods for loading files.

Author

Mathis URIEN (LBF38)

Version

1.0.0

Date

2022-10-19

Copyright

4.5.2 Function Documentation

4.5.2.1 main()

```
int main (
            int argc,
            char * argv[] )
```

Parameters

argc	
argv	

Returns

int

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