

```
    Help
/*
 * Written by David Pommier <david.pommier@gmail.com>
 * INRIA 2009
 */

#include "gd_list.h"

/**
 * allocates a contains.c * @param ind key
 * @param val value
 * @return a pointeur to PremiaContains
 */
PremiaContains * premia_contains_create(const int ind,
    double val)
{
    PremiaContains *C;
    if ( (C=malloc(sizeof(PremiaContains))) == NULL) return
        NULL;
    C->index = ind;
    C->value = val;
    return C;
}

PremiaContains * premia_contains_clone(int ind,double val)
{
    PremiaContains *C;
    if ( (C=malloc(sizeof(PremiaContains))) == NULL) return
        NULL;
    C->index = ind;
    C->value = val;
    return C;
}

/**
 * allocates a contains - copy constructor.
 * @param C2 contains pointer
 * @return a pointeur to PremiaContains
 */
PremiaContains * premia_contains_copy(const Premia    Contains *C2)
{
```

```

    PremiaContains *C;
    if((C=malloc(sizeof(PremiaContains)))==NULL) return NULL;
    C->index=C2->index;
    C->value=C2->value;
    return C;
}

/**
 * free a contains
 * @param C address of a contains
 */
void premia_contains_free(PremiaContains **C)
{
    if (*C != NULL)
    {
        free(*C);
        *C=NULL;
    }
}

/**
 * Prints a contains to a file
 *
 * @param fic a file descriptor.
 * @param C a Contians pointer.
 */
void premia_contains_fprint(FILE *fic,PremiaContains *C)
{fprintf(fic," ( %d,  %7.4f) ;",C->index,C->value);}

/**
 * Add at value, the value of PremiaContains C2
 *
 * @param C a PremiaContains pointer, C.Value+ =C2 .Value.
 * @param C2 a Contians pointer.
 */
void premia_contains_add(PremiaContains *C,const Premia    Contains *C2)
{C->value+=C2->value;}

/**
 * Less compute relation C1<C2

```

```
*
* @param C1 a PremiaContains pointer.
* @param C2 a Contians pointer.
* @return a int C1<C2
*/
int premia_contains_less(const PremiaContains *C1,const
    PremiaContains *C2)
{return C1->index<C2->index;}

/**
* Equal compute relation C1==C2
*
* @param C1 a PremiaContains pointer.
* @param C2 a Contians pointer.
* @return a int C1==C2
*/
int premia_contains_equal(const PremiaContains *C1,const
    PremiaContains *C2)
{return C1->index==C2->index;}
```

References