```c
   Help
#ifndef _COPULAS_H
#define _COPULAS_H

#include "cdo_math.h"
#include "structs.h"
#include "pnl/pnl_cdf.h"

typedef struct copula
{
  char       *name;
  int        nfactor; /* number of factors */
  int        size;
  double     *points; /* array of size nfactor x size */
  double     *weights; /* array of size nfactor x size */

  double     (*density)(const struct copula *cop,const
    double x);
  double     *(*compute_cond_prob)(const struct copula   *
    cop,const double f_t);
  double     stu;/* uniquement pour la student */

  void       (*generate)(struct copula *cop);
  int        (*compute_default_time)(const struct copula *
    cop,
                                     const step_fun     *
    H,
                                     double         *
    time);
  void       *parameters;
} copula;

copula     *init_gaussian_copula(const double  rho);
void        free_copula (copula **cop);
copula     *init_clayton_copula(const double   theta);
copula     *init_student_copula(const double   rho,const
    double   t1);
copula     *init_nig_copula(const double     rho,
                            const double     alpha,
                            const double     beta);
copula     *init_double_t_copula(const double  rho,const
```

```
    double t1,const double t2);
copula      *init_copula (int t_copula, const double *p_    copula);

#endif
```

References