

[Help](#)

```

#if defined(PremiaCurrentVersion) && PremiaCurrentVersion < (2008+2) //The "#els
#else
/*****
/*                                highdim_matrix.h
*****/
/*                                */
/* type MATRIX                    */
/*                                */
/* Copyright (C) 1992-1995 Tomas Skalicky. All rights reserved. */
/*                                */
/*****
/*                                */
/*      ANY USE OF THIS CODE CONSTITUTES ACCEPTANCE OF THE TERMS */
/*                                OF THE COPYRIGHT NOTICE (SEE FILE COPYRGHT.H) */
/*                                */
*****/

#ifndef HIGHDIM_MATRIX_H
#define HIGHDIM_MATRIX_H

#include <stdlib.h>

#include "lastypes.h"
#include "elcmp.h"
#include "copyrght.h"

typedef struct
{
    char *Name;
    size_t RowDim;
    size_t ClmDim;
    ElOrderType ElOrder;
    InstanceType Instance;
    int LockLevel;
    double Multipl;
    Boolean OwnData;
    size_t *Len;
    ElType **El;
    Boolean *ElSorted;

```

```

} Matrix;

void M_Constr(Matrix *M, char *Name, size_t RowDim, size_t ClmDim,
              ElOrderType ElOrder, InstanceType Instance, Boolean OwnData);
void M_Destr(Matrix *M);
void M_SetName(Matrix *M, char *Name);
char *M_GetName(Matrix *M);
size_t M_GetRowDim(Matrix *M);
size_t M_GetClmDim(Matrix *M);
ElOrderType M_GetElOrder(Matrix *M);
void M_SetLen(Matrix *M, size_t RoC, size_t Len);
size_t M_GetLen(Matrix *M, size_t RoC);
void M_SetEntry(Matrix *M, size_t RoC, size_t Entry, size_t Pos, double Val);
size_t M_GetPos(Matrix *M, size_t RoC, size_t Entry);
double M_GetVal(Matrix *M, size_t RoC, size_t Entry);
void M_AddVal(Matrix *M, size_t RoC, size_t Entry, double Val);

/* macros for fast access */
#define M__GetLen(PtrM, RoC) (PtrM)->Len[RoC]
#define M__SetEntry(PtrM, RoC, Entry, Pos_, Val_) { \
    (PtrM)->El[RoC][Entry].Pos = (Pos_); \
    (PtrM)->El[RoC][Entry].Val = (Val_); \
}
#define M__GetPos(PtrM, RoC, Entry) (PtrM)->El[RoC][Entry].Pos
#define M__GetVal(PtrM, RoC, Entry) (PtrM)->El[RoC][Entry].Val
#define M__AddVal(PtrM, RoC, Entry, Val_) { \
    (PtrM)->El[RoC][Entry].Val += (Val_); \
}

double M_GetEl(Matrix *M, size_t Row, size_t Clm);

void M_SortEl(Matrix *M);

void M_Lock(Matrix *M);
void M_Unlock(Matrix *M);

#endif /* HIGHDIM_MATRIX_H */

#endif //PremiaCurrentVersion

```