

## Help

```

#if defined(PremiaCurrentVersion) && PremiaCurrentVersion < (2008+2) //The "#els
#else
/*****
*   CPS - A simple C PDE solver                               *
*                                                           *
*   Copyright (c) 2007,                                       *
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*                                                           *
*****/
#ifndef STENCIL_H
#define STENCIL_H

#include "cps_function.h"
#include "cps_grid.h"
#include "cps_grid_node.h"

#define MAX_STENCIL_SIZE 9

#define MAX_MODES 2
#define MAX_TIMES 2

#define MODE_EXP 0
#define MODE_IMP 1
#define TIME_CUR 0
#define TIME_NXT 1

#define XY 0 /* i,j      */
#define XPY 1 /* i+1,j    */
#define XPYM 2 /* i+1,j-1 */
#define XYM 3 /* i,j-1   */
#define XMYM 4 /* i-1,j-1 */
#define XMY 5 /* i-1,j    */
#define XMYP 6 /* i-1,j+1 */
#define XYP 7 /* i,j+1    */
#define XPYP 8 /* i+1,j+1 */

```

```
struct stencil_t
{

    double weight[MAX_TIMES][MAX_MODES];
    double factor;
    const function *function_factor;
    double value[MAX_STENCIL_SIZE];
};

int stencil_create(stencil **);
int stencil_destroy(stencil **);
int stencil_set_factor(stencil *, double);
int stencil_set_function_factor(stencil *, const function *);
int stencil_set_value(stencil *, int, double);
int stencil_set_weight(stencil *, int, int, double);
int stencil_apply(stencil *, const grid *, int, int, const grid_node *, stencil_
int stencil_evaluate(stencil *, int, int, int, const grid_node *, double *);
#endif

#endif //PremiaCurrentVersion
```