

Help

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#include "optype.h"
#include "var.h"
#include "method.h"
#include "test.h"
#include "timeinfo.h"
#include "error_msg.h"
#include "tools.h"
#include "ftools.h"
#include "premia_obj.h"
#ifndef SEEK_SET
#define SEEK_SET 0
#endif
#ifndef CLOCKS_PER_SEC
#include <unistd.h>
#include "error_msg.h"
#define CLOCKS_PER_SEC _SC_CLK_TCK
#endif

extern char premiasrcdir[MAX_PATH_LEN];
extern char premiamandir[MAX_PATH_LEN];

extern char PREMIA_OUT[MAX_PATH_LEN];
extern char GNUPLOT_DAT[MAX_PATH_LEN];
extern char TITLES_TEX[MAX_PATH_LEN];
extern char GNUPLOT_SCREEN_PLT[MAX_PATH_LEN];
extern char GNUPLOT_FILE_PLT[MAX_PATH_LEN];
extern char GNU_TEX[MAX_PATH_LEN];
extern char PREMIA_LOG[MAX_PATH_LEN];
extern char SESSION_LOG[MAX_PATH_LEN];

int StrCasecmp(const char *chaine1, const char *chaine2)
{
    int i, ma, test;

    if (strlen(chaine1) != strlen(chaine2))
        return 1;
    else
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{
    ma = strlen(chaine1);
    i = 0;
    test = 0;
    while (i < ma)
    {
        if (tolower(*chaine1) == tolower(*chaine2))
        {
            chaine1++;
            chaine2++;
            test++;
            i++;
        }
        else break;
    }
    if ((i == ma) && (test == ma))
        return 0;
    else
        return -1;
}

}

void ReadInputFile(char *InputFile, char FileRed[MAX_LINE][MAX_CHAR_LINE])
{
    FILE *fic;
    char c;
    int i, j;

    for (i = 0; i < MAX_LINE; i++)
        for (j = 0; j < MAX_CHAR_LINE; j++)
            FileRed[i][j] = '\0';
    printf("Reading File%s...\n", InputFile);

    if ((fic = fopen(InputFile, "r")) == NULL)
    {
        printf("Unable to open Input File %s\n", InputFile);
        exit(1);
    }
    i = 0;
    j = 0;
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while ((i < MAX_LINE) && ((c = fgetc(fic)) != EOF))
{
    switch (c)
    {
        case '#': /* Ignore commented lines */
            while ((c = fgetc(fic)) != '\ n');
            break;
        case '\ r': /* windows end of line character */
            break;
        case '\ n': /* we start a new line */
            if (j > 0)
            {
                i++;
                j = 0;
            }
            break;
        case ' ': /* Keep blanks only if we are at the beginning of line */
            if (j > 0)
            {
                FileRed[i][j] = c;
                j++;
            }
            break;
        default:
            FileRed[i][j] = c;
            j++;
            break;
    }
}
fclose(fic);

if (i == MAX_LINE)
    printf("The File %s is too long. The reading process stops at line %d. May b

}

char FChooseProduct(char InputFile[MAX_LINE][MAX_CHAR_LINE])
{
    char msg = 'e';
    int i, i0, j, j0;

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printf("\ nReading Product type.....\ n");
i0 = -1;
j0 = -1;
for (i = 0 ; (i < MAX_LINE)  && (i0 < 0) ; i++)
{
    j = 0;
    while (j < (signed)strlen(InputFile[i]) - 3)
    {
        if (((InputFile[i][j] == 'P') || (InputFile[i][j] == 'p'))
            && ((InputFile[i][j + 1] == 'r') || (InputFile[i][j + 1] == 'R'))
            && ((InputFile[i][j + 2] == 'o') || (InputFile[i][j + 2] == 'O'))))
        {
            i0 = i;
            j0 = j + 3;
            while (InputFile[i][j0] == ' ') j0++;
            break;
        }
        j++;
    }
}
if (i0 > -1)
{
    PremiaAsset *asset;
    msg = InputFile[i0][j0];
    for (asset = premia_assets ; asset->name != NULL ; asset++)
    {
        if (msg == asset->label)
        {
            printf("Asset %s found\ n", asset->name);
            return msg;
        }
    }
    printf("Asset is missing, default is equity\ n");
    return 'e';
}

char FChooseAction(char InputFile[MAX_LINE][MAX_CHAR_LINE])
{
    char msg = 'p';

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int i, i0, j, j0;
printf("\ nReading Action type.....\ n");
i0 = -1;
j0 = -1;
for (i = 0; ((i < MAX_LINE)  && (i0 < 0)); i++)
{
    j = 0;
    while (j < (signed)strlen(InputFile[i]) - 3)
    {
        if (((InputFile[i][j] == 'A') || (InputFile[i][j] == 'a'))
            && ((InputFile[i][j + 1] == 'C') || (InputFile[i][j + 1] == 'c'))
            && ((InputFile[i][j + 2] == 'T') || (InputFile[i][j + 2] == 't'))))
        {
            i0 = i;
            j0 = j + 3;
            while (InputFile[i][j0] == ' ') j0++;
        }
        j++;
    }
}
if ((i0 < 0) || ((InputFile[i0][j0] != 'p') && (InputFile[i0][j0] != 't'))))
{
    printf("Action is missing, default is pricing\ n");
    msg = 'p';
}
else
{
    msg = InputFile[i0][j0];
    if (msg == 'p')
        printf("Action found: Pricing\ n\ n");
    else
        printf("Action found: Test\ n\ n");
}

return msg;
}

int FMoreAction(char InputFile[MAX_LINE][MAX_CHAR_LINE], int *count)
{
    //char msg='p';
    int i0 = 0, i, j;

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//int listline[MAX_LINE];
if (*count == (MAX_METHODS - 1))
{
    Fprintf(TOSCREEN, "\ n Max Number of Methds Reached!\ n");
    //msg='n';
}
else
{
    i0 = 0;
    for (i = 0; i < MAX_LINE; i++)
    {
        if (strlen(InputFile[i]) > 1)
        {
            j = 0;
            while (isalpha(InputFile[i][j]) == 0)
                j++;
            if (((InputFile[i][j] == 'M') || (InputFile[i][j] == 'm')) && ((In
                || (InputFile[i][j + 1] == 'a'))))
            {
                //listline[i0]=i;
                i0++;
            }
        }
    }

    }

if (i0 == (*count))
    return WRONG;
else
{
    (*count)++;
    return OK;
}
}

int FSelectModel(char InputFile[MAX_LINE][MAX_CHAR_LINE], int user, Planning *pt
{
    int choice = 0, i = 0, mo, aux;
    /* char fhelph_name[MAX_PATH_LEN]="";*/
    int ims, j, k;

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char line[MAX_CHAR_LINE];
char **Inp = NULL;
Fprintf(TOSCREEN, "\ n_____MODEL CHOICE:\ n\ n");

/* Find a model in the file */
/* Find the designation of the model*/
ims = -1;
for (i = 0; ((i < MAX_LINE) && (ims < 0)); i++)
{
    mo = 0;
    while (listmodel[mo] != NULL)
    {
        j = 0;
        while (j <= (signed)(strlen(InputFile[i]) - strlen(listmodel[mo]->ID)))
        {
            for (k = j; k < j + (signed)strlen(listmodel[mo]->ID); k++)
                line[k - j] = InputFile[i][k];
            line[j + (signed)strlen(listmodel[mo]->ID)] = '\ 0';
            if (StrCasecmp(listmodel[mo]->ID, line) == 0)
            {
                ims = i;
                choice = mo;
            }
            j++;
        }
        mo++;
    }
}
if (ims < 0)
{
    printf("\ nNot able to find a model: default is Black Scholes 1d\ n");
    return PREMIA_NONE;
}
else
{
    printf("\ nA model has been found: %s\ n\ n", listmodel[choice]->ID);
    *mod = listmodel[choice];
    Inp = malloc(sizeof(char *)*MAX_LINE);
    for (i = 0; i < MAX_LINE; i++)
    {

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        Inp[i] = malloc(sizeof(char) * (strlen(InputFile[i]) + 1));
        for (j = 0; j < (signed)strlen(InputFile[i]); j++)
            Inp[i][j] = InputFile[i][j];
        Inp[i][strlen(InputFile[i])] = '\0';
    }
    aux = ((*mod)->FGet)(Inp, user, pt_plan, *mod);
    for (i = 0; i < MAX_LINE; i++) free(Inp[i]);
    free(Inp);
    Inp = NULL;
    return aux;
}

int FSelectOption(char InputFile[MAX_LINE][MAX_CHAR_LINE], int user, Planning *p)
{
    int i, j, choice, k, ims, op, mo, cat, aux;
    Family *list;
    /* char family_name[MAX_CHAR_X3]="",dummy[MAX_CHAR_X3]=""; */
    char line[MAX_CHAR_LINE];
    char **Inp = NULL;
    /* avoid warning */
    cat = choice = 0;

    Fprintf(TOSCREEN, "\n_____OPTION CHOICE:\n\n");
    ims = -1;
    for (i = 0; ((i < MAX_LINE) && (ims < 0)); i++)
    {
        op = 0;
        while (L_listopt[op] != NULL)
        {
            if (MatchingPricing(pt_model, *(L_listopt[op])[0], pricing) == 0)
            {
                list = L_listopt[op];
                mo = 0;
                while ((*list)[mo] != NULL)
                {
                    j = 0;
                    while (j <= (signed)(strlen(InputFile[i]) - strlen((*list)[mo]))
                    {
                        if ((j == 0 || (j > 0 && InputFile[i][j - 1] == ' ')) &&

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        (InputFile[i][j + (signed)strlen((*list)[mo]->Name)] =
        InputFile[i][j + (signed)strlen((*list)[mo]->Name)] =
    )
    {
        for (k = j; k < j + (signed)strlen((*list)[mo]->Name);
            line[k - j] = InputFile[i][k];
        line[j + (signed)strlen((*list)[mo]->Name)] = '\ 0';

        if (StrCasecmp((*list)[mo]->Name, line) == 0)
        {
            ims = i;
            choice = mo;
            cat = op;
        }
    }
    j++;
}
mo++;
}

    }
    op++;
}

}

if (ims < 0)
{
    printf("\ nNot able to find an option: default is CallEuro 1d\ n");
    return PREMIA_NONE;
}
else
{
    printf("\ nAn Option has been found: %s\ n\ n", (*L_listopt[cat])[choice]-
    *opt = (*L_listopt[cat])[choice];
    Inp = malloc(sizeof(char *)*MAX_LINE);
    for (i = 0; i < MAX_LINE; i++)
    {
        Inp[i] = malloc(sizeof(char) * (strlen(InputFile[i]) + 1));
        for (j = 0; j < (signed)strlen(InputFile[i]); j++)
            Inp[i][j] = InputFile[i][j];
        Inp[i][strlen(InputFile[i])] = '\ 0';
    }
}

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    }
    aux = ((*opt)->FGet)(Inp, user, pt_plan, *opt, pt_model);
    for (i = 0; i < MAX_LINE; i++) free(Inp[i]);
    free(Inp);
    Inp = NULL;
    return aux;
}
}

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int FSelectPricing(char InputFile[MAX_LINE][MAX_CHAR_LINE], int user, Model *pt_
{
    int i = -1;
    char dummy[MAX_CHAR_X3];

    if ((strlen(pt_model->ID) + 1 + strlen(pt_option->ID)) >= MAX_CHAR_X3)
    {
        Fprintf(TOSCREEN, "%s\ n", error_msg[PATH_TOO_LONG]);
        exit(WRONG);
    }

    strcpy(dummy, pt_model->ID);
    strcat(dummy, "_");
    strcat(dummy, pt_option->ID);

    do
    {
        i = i + 1;
    }
    while ((strcmp(dummy, pricing[i]->ID) != 0) && (pricing[i + 1] != NULL));

    if (strcmp(dummy, pricing[i]->ID) == 0)
    {
        *result = pricing[i];
        return ((*result)->CheckMixing)(pt_option, pt_model) ;
    }

    Fprintf(TOSCREEN, "No choice available!\ n");

    return PREMIA_NONE;
}

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int FSelectMethod(char InputFile[MAX_LINE][MAX_CHAR_LINE], int user, Planning *p
{
    int i, isub, ii, j, choice, sublist[MAX_MET], k, is, ie, aux;
    char line[MAX_CHAR_LINE];
    int listline[MAX_MET], choiceline[MAX_MET];
    char **Inp;
    PricingMethod **list;
    PricingMethod *dummy;

    Fprintf(TOSCREEN, "\ n_____METHOD CHOICE:\ n\ n");

    list = pt_pricing->Methods;
    i = 0;
    isub = 0;

    dummy = *list;
    choice = 0;
    while (dummy != NULL)

    {
        if ((dummy->CheckOpt)(opt, mod) == OK)

        {

            for (ii = 0; ii < MAX_LINE; ii++)
            {
                j = 0;
                while (j <= (signed)(strlen(InputFile[ii]) - strlen((pt_pricing->M
                {
                    if ((j == 0 || (j > 0 && InputFile[i][j - 1] == ' ')) &&
                        (InputFile[i][j + strlen((pt_pricing->Methods[i])->Name)]
                        InputFile[i][j + strlen((pt_pricing->Methods[i])->Name)]
                    )
                {
                    for (k = j; k < j + (signed)strlen((pt_pricing->Methods[i]
                        line[k - j] = InputFile[ii][k];
                    line[j + (signed)strlen((pt_pricing->Methods[i])->Name)] =
                    if (StrCasecmp((pt_pricing->Methods[i])->Name, line) == 0)
                    {
                        listline[choice] = isub;
                        choiceline[choice] = ii;

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                                choice++;
                                }
                                }
                                j++;
                                }
                                }
                                sublist[sub] = i;
                                sub = sub + 1;
                                }

                                i = i + 1;
                                list++;
                                dummy = *list;
                                }
/* Tri des methodes */
for (j = 1; j < choice; j++)
{
    ii = choiceline[j];
    k = listline[j];
    i = j - 1;
    while (i >= 0 && choiceline[i] > ii)
    {
        choiceline[i + 1] = choiceline[i];
        listline[i + 1] = listline[i];
        i--;
    }
    choiceline[i + 1] = ii;
    listline[i + 1] = k;
}
/* On envoie que la partie du fichier necessaire pour eviter les confusions
de parametres de methodes */
list = pt_pricing->Methods;
if (isub == 0)
{
    Fprintf(TOSCREEN, "No methods available!\ n");
}
else
{
    if (choice < 0)
    {
        Fprintf(TOSCREEN, "No methods found, exiting....\ n");
    }
}

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    }
else
{
    Fprintf(TOSCREEN, "\ n");
    if (choice <= pt_plan->NumberOfMethods)
    {
        Fprintf(TOSCREEN, "Problem with the name of a Method\ n");
    }
else
{
    if (choice - 1 == pt_plan->NumberOfMethods)
    {
        is = choiceline[pt_plan->NumberOfMethods];
        ie = MAX_LINE;
    }
else
{
        is = choiceline[pt_plan->NumberOfMethods];
        ie = choiceline[pt_plan->NumberOfMethods + 1];
    }
    Inp = malloc(sizeof(char *)*MAX_LINE);
    for (i = 0; i < MAX_LINE; i++)
        Inp[i] = malloc(sizeof(char) * (MAX_CHAR_LINE));
    for (i = is; i < ie; i++)
    {
        for (j = 0; j < (signed)strlen(InputFile[i]); j++)
            Inp[i - is][j] = InputFile[i][j];
        Inp[i - is][strlen(InputFile[i])] = '\ 0';
    }
    *met = *(list + sublist[listline[pt_plan->NumberOfMethods]]);
    aux = FGetMethod(Inp, user, pt_plan, pt_pricing, *met, opt);
    for (i = 0; i < MAX_LINE; i++) free(Inp[i]);
    free(Inp);
    Inp = NULL;
    return aux;
}
}
}
return WRONG;
}

```

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int  FGetTimeInfo(char InputFile[MAX_LINE][MAX_CHAR_LINE], int user, Planning*
{
    char helpfile[MAX_PATH_LEN] = "";
    /* char **Inp;
    * int i,j; */

    if ((2 * strlen(path_sep) + strlen("common")
        + strlen("timeinfo_src.pdf")) >= MAX_PATH_LEN)
    {
        Fprintf(TOSCREEN, "%s\ n", error_msg[PATH_TOO_LONG]);
        exit(WRONG);
    }
    /* Inp = malloc(sizeof(char *)*MAX_LINE);
    * for(i=0;i<MAX_LINE;i++){
    *     Inp[i]= malloc(sizeof(char)*(strlen(InputFile[i])+1));
    *     for(j=0;j<(signed)strlen(InputFile[i]);j++)
    *         Inp[i][j]=InputFile[i][j];
    *     Inp[i][strlen(InputFile[i])]='\ 0';
    * } */

    strcpy(helpfile, premiamandir);
    strcat(helpfile, path_sep);
    strcat(helpfile, "common");
    strcat(helpfile, path_sep);
    strcat(helpfile, "timeinfo_src.pdf");

    if (pt_plan->Action == 'p')
    {
        (Met->Init)(Met);

        if (user == TOSCREEN)
        {
            Met->Par[0].Val.V_INT = WRONG;
            return OK;
        }

        return ShowTimeInfo(TOSCREENANDFILE, pt_plan, Met);
    }
}

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    else
        return OK;
}

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```

int FSelectTest(char InputFile[MAX_LINE][MAX_CHAR_LINE], int user, Planning *pt_
                Pricing *pt_pricing, Option *opt, Model *mod, PricingMethod *met
{
    int i, ii, isub, k, j;
    DynamicTest **list;
    DynamicTest *dummy;
    char line[MAX_CHAR_LINE];
    if (pt_plan->Action == 't')
    {
        Fprintf(TOSCREEN, "\ n_____TEST CHOICE:\ n\ n");
        list = pt_pricing->Test;
        i = 0;
        isub = 0;
        dummy = *list;
        while (dummy != NULL)
        {
            if ((dummy->CheckTest)(opt, mod, met) == OK)
            {
                for (ii = 0; ii < MAX_LINE; ii++)
                {
                    j = 0;
                    while (j <= (signed)(strlen(InputFile[ii]) - strlen((pt_pricing->Test[i])->Name)))
                    {
                        if ((j == 0 || (j > 0 && InputFile[i][j - 1] == ' ')) &&
                            (InputFile[i][j + strlen((pt_pricing->Test[i])->Name)]
                             InputFile[i][j + strlen((pt_pricing->Test[i])->Name)]
                             )
                        )
                        {
                            for (k = j; k < j + (signed)strlen((pt_pricing->Test[i])->Name); k++)
                                line[k - j] = InputFile[ii][k];
                            line[j + (signed)strlen((pt_pricing->Test[i])->Name)]
                                = '\0';
                            if (StrCasecmp((pt_pricing->Test[i])->Name, line) == 0)
                            {
                                *test = pt_pricing->Test[i];
                                (*test)->Init(*test, opt);
                                goto ok;
                            }
                        }
                    }
                }
            }
            dummy = dummy->next;
        }
    }
}

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        }
    }
    j++;
}
}
isub++;
}
i = i + 1;
list++;
dummy = *list;
}

if (isub == 0)
{
    Fprintf(TOSCREEN, "No test available!\ n");
}
else
{
    Fprintf(TOSCREEN, "No tests found, exiting....\ n");
}
}

ok:
    return OK;
}
```