

[Help](#)

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#include "pad.h"

static NumFunc_2 put=
{
    Put_OverSpot2,
    {"Strike",PDOUBLE,{100},ALLOW,SETABLE},{ " ",PREMIA_NULLTYPE,{0},FORBID,SETABLE}},
    CHK_call
};

static NumFunc_2 asian=
{
    Asian,
    {
        {"StartingDate",DATE,{0},ALLOW,SETABLE},
        {"FinalDate",DATE,{0},IRRELEVANT,UNSETABLE},
        {"Frequency",PDOUBLE,{0},IRRELEVANT,UNSETABLE},
        {"InitialValue",PDOUBLE,{100},IRRELEVANT,UNSETABLE},
        {"Average",PDOUBLE,{100},ALLOW,SETABLE},
        {" ",PREMIA_NULLTYPE,{0},FORBID,SETABLE}
    },
    /*The average At at time t is given by: A0+S0+Sh+S2h+..
    +Snh/n with:*/
    /*h=Frequency, nh=t-StartingDate */
    /*frequency doesn't matter for continuous average*/
    CHK_call
};

static TYPEOPT AsianPutFixedAmer=
{
    /*Maturity*/          {"Maturity",DATE,{0},ALLOW,SETABLE}
    ,
    /*PayOff*/            {"Payoff",NUMFUNC_2,{0},FORBID,SETABLE}
    ,
    /*PathDep*/           {"PathDep",NUMFUNC_2,{0},FORBID,SETABLE}
    },

    /*MinOrElse*/         {"Average",PADE,{AVERAGE},ALLOW,UNSETABLE},
    /*EuOrAm*/            {"Amer",BOOL,{AMER},FORBID,UNSETABLE},

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/*PartOrTot*/      {"Total",BOOL,{TOTAL},FORBID,UNSETABLE
},
/*ContOrDisc*/     {"Continuous",BOOL,{CONT},FORBID,UNSE
TABLE},
};

static int OPT(Init)(Option *opt,Model *mod)
{
    TYPEOPT* pt=( TYPEOPT*)(opt->TypeOpt);

    if ( opt->init == 0)
    {
        opt->init = 1;
        opt->nvar = 7;
        opt->nvar_setable=3;

        pt->PayOff.Val.V_NUMFUNC_2=&put;
        pt->PathDep.Val.V_NUMFUNC_2=&asian;

        (pt->PayOff.Val.V_NUMFUNC_2)->Par[0].Val.V_PDOUBLE=10
0.0;

        (pt->MinOrElse).Val.V_PADE=AVERAGE;
        (pt->EuOrAm).Val.V_BOOL=AMER;
        (pt->PartOrTot).Val.V_BOOL=TOTAL;
        (pt->ContOrDisc).Val.V_BOOL=CONT;

        (pt->PathDep.Val.V_NUMFUNC_2)->Par[0].Val.V_DATE=0.0;
        (pt->PathDep.Val.V_NUMFUNC_2)->Par[1].Val.V_DATE=0.0;
        (pt->PathDep.Val.V_NUMFUNC_2)->Par[2].Val.V_PDOUBLE=0
.0;
        (pt->PathDep.Val.V_NUMFUNC_2)->Par[3].Val.V_PDOUBLE=0
.0;
        (pt->PathDep.Val.V_NUMFUNC_2)->Par[4].Val.V_PDOUBLE=0
.0;

        (pt->Maturity).Val.V_DATE=1.0;
    }
}

```

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    return OK;  
}  
  
MAKEOPT(AsianPutFixedAmer);
```

References