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```
#include "  
href../../mod/blackkarasinski1d/blackkarasinski1d_h_src.pdfblackkarasinski1d.h"  
#include "  
href../../common/chk_h_src.pdfchk.h"  
#include "  
href../../common/error_msg_h_src.pdferror_msg.h"  
#include "premia_obj.h"  
#include "  
href../../mod/hes1d/hes1d_pad/model_h_src.pdfmodel.h"  
#include "  
href../../common/enums_h_src.pdfenums.h"
```

```
double MOD(GetYield)(TYPEMOD *pt)  
{  
    VAR *Par;  
    Par = lookup_premia_enum_par(&(pt->flat_flag), 0);  
    return Par[0].Val.V_PDDOUBLE;  
}
```

```
char *MOD(GetCurve)(TYPEMOD *pt)  
{  
    VAR *Par;  
    Par = lookup_premia_enum_par(&(pt->flat_flag), 1);  
    return Par[0].Val.V_FILENAME;  
}
```

```
static int MOD(Init)(Model *model)  
{  
    VAR *Par;  
    TYPEMOD *pt = (TYPEMOD *)(model->TypeModel);  
  
    if (model->init == 0)  
    {  
        model->init = 1;  
        model->nvar = 0;  
        pt->T.Vname = "Current Date";  
        pt->T.Vtype = DATE;  
        pt->T.Val.V_DATE = 0.0;
```

```

pt->T.Viter = ALLOW;
model->nvar++;

pt->flat_flag.Vname = "Initial Yields Curve";
pt->flat_flag.Vtype = ENUM;
pt->flat_flag.Val.V_ENUM.value = 0;
pt->flat_flag.Val.V_ENUM.members = &PremiaEnumFlat;
pt->flat_flag.Viter = FORBID;
model->nvar++;
Par = lookup_premia_enum_par(&(pt->flat_flag), 0);
Par[0].Vname = "Yield Value";
Par[0].Vtype = PDOUBLE;
Par[0].Val.V_PDOUBLE = 0.05;
Par[0].Viter = ALLOW;
Par = lookup_premia_enum_par(&(pt->flat_flag), 1);
Par[0].Vname = "Yield Curve";
Par[0].Vtype = FILENAME;
Par[0].Val.V_FILENAME = NULL;
Par[0].Viter = FORBID;


pt->r0.Vname = "Current Rate";
pt->r0.Vtype = PDOUBLE;
pt->r0.Val.V_PDOUBLE = 0.05;
pt->r0.Viter = ALLOW;
model->nvar++;


pt->a.Vname = "Speed of Mean Reversion";
pt->a.Vtype = DOUBLE;
pt->a.Val.V_DOUBLE = 0.15;
pt->a.Viter = ALLOW;
model->nvar++;


pt->Sigma.Vname = "Volatility";
pt->Sigma.Vtype = PDOUBLE;
pt->Sigma.Val.V_PDOUBLE = 0.1;
pt->Sigma.Viter = ALLOW;
model->nvar++;
}

```

```

Par = lookup_premia_enum_par(&(pt->flat_flag), 1);
if (Par[0].Val.V_FILENAME == NULL)
{
    if ((Par[0].Val.V_FILENAME = malloc(sizeof(char) * MAX_PATH_LEN)) == NULL)
        return MEMORY_ALLOCATION_FAILURE;
    sprintf(Par[0].Val.V_FILENAME, "%s%sinitialyield.dat", premia_data_dir, pa
}
return OK;
}
TYPEMOD BlackKarasinski1d;
MAKEMOD(BlackKarasinski1d);

```