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   Help
#if defined(PremiaCurrentVersion) && PremiaCurrentVersion <
     (2007+2) //The "#else" part of the code will be freely av
    ailable after the (year of creation of this file + 2)
#else

#ifndef LEVYFD_H
#define LEVYFD_H

#include <iostream>
#include <fstream>
#include <vector>
#include "progonka.h"
#include "numerics.h"
#include "levy.h"

class Grid
{
  double Al;
  double Ar;
  double dx;
  int N;

 public :

  Grid(const double dAl, const double dAr, const int dN);
  inline double x(double i) const {return Al+i*dx;}
};

double init_cond(const double x, const double S0,
                 const double K, const int product);

double bound_cond(const double x, const double S0, const
    double K,const double rebate,
      const double ttm, const double r,
      const int product, const int product_type);

/*Explicit-implicit finite difference scheme*/
vector<double> price2(int am,const Levy_measure & measure,
    int product,
          int product_type, double r, double divid,
```

```
    double S0,
          double K, double rebate,double Al, double Ar,
          int Nspace, double T, int Ntime, double &
    price0, double & delta0);
/*Meaning of arguments:
  - product: Call(1), Put(2), or forward(3);
  - product_type: European vanilla (1), Up-and-Out(2), Dow
    n-and-Out(3), or double barrier out option(4);
  - rebate: constant rebate in the barrier case;
  - price0, delta0: output variables*/

/*Centered version of the explicit-implicit scheme*/
vector<double> price2c(int am,const Levy_measure & measure,
     int product,
          int product_type, double r, double divid,
    double S0,
          double K, double rebate,double Al, double Ar,
          int Nspace, double T, int Ntime, double &
    price0, double & delta0);
#endif

#endif //PremiaCurrentVersion
```

References