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

#include <vector>
#include "generator.h"

#ifndef model_h_
#define model_h_

//model of a stochastic differential equation
//functions f_b, f_sigma for Euler scheme
//(the function near dt, dW_t in SDE respectively)

//functions exp_V0, f_1, f_2 for Ninomiya-Victoir Scheme
//f_1 and f_2 give a sequance of (exp_V1...exp_Vd) or (exp_
    Vd...exp_V1)

//functions f_esp, f_control for a variance reduction techn
    ique.
//f_esp() gives a value exact of control variable
//f_control() gives a control variable.

//parameters: T - maturity, K - strike, x0 - vector initial

class model
{
 public:
  virtual std::vector<double> exp_V0(double, std::vector<
    double>)=0;
  virtual std::vector<double> f_b(std::vector<double>,
    double)=0;
  virtual std::vector<double> f_sigma(std::vector<double>,
    double)=0;
  virtual std::vector<double> f_1(std::vector<double>,
    double, std::vector<double>)=0;
  virtual std::vector<double> f_2(std::vector<double>,
    double, std::vector<double>)=0;
  virtual double f_control(std::vector<double>)=0;
  virtual double f_esp(double&)=0;

  double T;
  std::vector<double> x0;
  double K;

  virtual ~model(){};

};

//we redefine operator +, * for vector

std::vector<double> operator+(std::vector<double> _x, std::
    vector<double> _y)
{
  int ndim=(_x.size()<=_y.size())? _x.size(): _y.size();
  std::vector<double> nres(ndim);

  for (int i=0; i<ndim; i++)
    nres[i]=_x[i]+_y[i];

  return nres;
}

std::vector<double> operator*(std::vector<double> _x,
    double _a)
{
  int ndim=_x.size();
  std::vector<double> nres(ndim);

  for (int i=0; i<ndim; i++)
    nres[i]=_a*_x[i];

  return nres;
}

std::vector<double> operator*(double _a, std::vector<
    double> _x)
{
  int ndim=_x.size();
  std::vector<double> nres(ndim);

  for (int i=0; i<ndim; i++)
    nres[i]=_a*_x[i];

  return nres;
}

std::vector<double> operator*(std::vector<double> _x, std::
    vector<double> _y)
{
  int ndim=(_x.size()<=_y.size())? _x.size(): _y.size();
  std::vector<double> nres(ndim);

  for (int i=0; i<ndim; i++)
    nres[i]=_x[i]*_y[i];

  return nres;
}


#endif

#endif //PremiaCurrentVersion
```

References