

[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 <cmath>

#ifdef generator_h_
#define generator_h_

//random variable class
class rv
{
    //function simulates a random variable
public:
    virtual double get_rv(void) = 0;

    virtual ~rv() {};
};

//bernoulli random variable class
class rv_bernoulli: public rv
{
    //the parameters: probability(x=nvalue1)=nproba;    probab
    ility(x=nvalue2)=1-nproba
private:
    double nproba;
    double nvalue1;
    double nvalue2;
    int generator;

public:

    //class constructor
    rv_bernoulli(double _nproba = 0.5, double _nvalue1 = 1,
        double _nvalue2 = 1, int _generator = 1)
    {
```

```
    nproba = ((_nproba > 0.) & (_nproba < 1.)) ? _nproba :
    0.5;
    generator = _generator;
    nvalue1 = _nvalue1;
    nvalue2 = _nvalue2;
};

//function simulates a bernoulli random variable
virtual double get_rv(void)
{
    double x;
    x = pnl_rand_uni(generator);
    return (x < nproba) ? nvalue1 : nvalue2;
};

virtual ~rv_bernoulli() {};
};

class rv_vector
{
    //parameters:
    //ndim_vector - a dimension of our vector
protected:
    int ndim_vector;

public:

    //class constructor
    rv_vector(int _ndim)
    {
        ndim_vector = (_ndim > 0) ? _ndim : 1;
    };

    virtual std::vector<double> get_rv(void) = 0;
    virtual ~rv_vector() {};
};

#endif
```

```
#endif //PremiaCurrentVersion
```

## References