```
//
//  main.cpp
//  aula
//
//  Created by Lubia Vinhas on 02/04/14.
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//

#include <iostream>
#include <string>
#include <vector>

// main use

class vector
{
public:

    // default constructor
    vector():
     sz(0),
     elem(0)
    {}


    // constructor with parameters
    vector(int n):
     sz(n),
     elem(new double[n])
    {}

    // copy constructor
    vector(const vector& v):
     sz(v.sz),
     elem(new double[v.sz])
    {
        for (unsigned int i=0; i<sz; ++i)
          elem[i] = v.elem[i];
    }

    // assigment operator
    vector& operator=(const vector& rhs)
    {
        if (&rhs == this)
            return *this;

        sz = rhs.sz;
        if (elem)
            delete [] elem;

        elem = new double[sz];
        for (unsigned int i=0; i<sz; ++i)
            elem[i] = rhs.elem[i];

        return *this;
    }

    // destructor
    ~vector()
    {
```

```
            delete []elem;
        }

        void clean()
        {
            delete elem;
            elem = 0;
            sz = 0;
        }

        int sz;
        double* elem;

    };

    void f()
    {
        vector v(2);
        v.elem[0]=10.1;
        std::cout << v.elem[0] << std::endl;

            v = v;

        vector v2(v);     // copy constructor

        v.clean();

        std::cout << v2.elem[0] << std::endl;

        vector v3 = v;   // assignment operator

        std::cout << v3.elem[0] << std::endl;




    }

    int main()
    {
        f();

        int a=10;
        int b = a = 10;
        a = a;
    }
```