Communication Software Design

Lab 08 vector & free store

11/29/2019

In our lecture this week, we have learned a simple version of implementation for a vector which stores type of double elements . The header file is listed below.

```
class vector {
    int sz;     // the size
    double* elem;   // pointer to elements
 public:
    vector(int s) :sz(s), elem(new double[s]);  // constructor
    ~vector();   // destructor , deallocates memory

    double get(int n)  //access: read
    void set(int n, double v);  // set values
    int size() const { return sz; }     // the number of elements
 };
```

Please modify and implement the header file so that the vector can be used to store type of string elements. The constructor should be able to initial all elements to “-”. Add a print() function which can print all elements.

```
string NumberToString ( int number ) // #includ <sstream> to use
this
{
    ostringstream ss;
    ss << number;
    return ss.str();
}

int main()
{
        vector v(5);
        v.print();  // this should display -, -, -, -, -
        for (int i=0; i<v.size(); ++i)
        {
            string s = NumberToString(i);
            v.set(i,s);
        }
        v.print();// this should display 0, 1, 2, 3, 4
```

main.cpp