Gebze Institute of Technology
Department of Computer Engineering
CSE 241/505
Object Oriented Programming
Fall 2014
Homework # 8

MURAT ALTUNTAŞ
111044043

```cpp
template<class T>
    class Container
    {
    public:
//      Container();
        /* container a eleman ekleme fonksiyonu */
        virtual void add(T elm) = 0;
        /* container dan eleman cikarma fonksiyonu */
        virtual void remove(T elm) = 0;
        /* container da eleman arama fonksiyonu */
        virtual int search(T elm) = 0;
        /* container in ilk elemanini dondurur */
        virtual T first() = 0;
        /* container in sonraki elemanini dondurur */
        virtual T next() = 0;
        /* return the container size */
        virtual int contSize() const = 0;
        /* print */
        void print();
        /* other Container i member Container a ekler */
        void addAll(const Container& other);
        /* Container in butun elemanlarini siler */
        void removeAll();
        /* container in vectorunu return eder */
        vector<T> toVector() const;
        /* container elemanlarini siralayan fonksiyon */
        void sort();
        /* swap fonksiyonu */
        void swapValues( T& variable1, T& variable2);
        /* sorted object kontrolu icin gerekli fonksiyon */
        bool SortedObject() const {return isSortedObject;}
        /* set object kontrolu icin gerekli fonksiyon */
        bool SetObject() const {return isSetObject;}
        /* get vector */
        vector<T> getElemsVect() const {return elems;}
    protected:
        vector<T> elems; // elements
        bool isSortedObject; /* obje Sorted classlarindan birine mi ait */
        bool isSetObject; /* obje Set classlarindan birine mi ait */
        int nextCount; /* next fonksiyonu icin gerekli counter. */

    };

    /* return the number of sorted container object elements */
    template <typename T>
    int numOfSortCont(const Container<T>& other);

template<class T>
```

```cpp
class SetContainer : public Container<T>
{
public:
        SetContainer(); /* Constructor */
        /* container a eleman ekleme fonksiyonu */
        void add(T elm);
        /* container dan eleman cikarma fonksiyonu */
        void remove(T elm);
        /* container da eleman arama fonksiyonu */
        int search(T elm);
        /* container in ilk elemanini dondurur */
        T first();
        /* container in sonraki elemanini dondurur */
        T next();
        /* return the container size */
        int contSize() const;
};

template<class T>
class SortedContainer : public Container<T>
{
public:
        SortedContainer(); /* Constructor */
        /* container a eleman ekleme fonksiyonu */
        void add(T elm);
        /* container dan eleman cikarma fonksiyonu */
        void remove(T elm);
        /* container da eleman arama fonksiyonu */
        int search(T elm);
        /* container in ilk elemanini dondurur */
        T first();
        /* container in sonraki elemanini dondurur */
        T next();
        /* return the container size */
        int contSize() const;
};

template<class T>
class SortedSetContainer : public Container<T>
{
public:
        SortedSetContainer();
        /* container a eleman ekleme fonksiyonu */
        void add(T elm);
        /* container dan eleman cikarma fonksiyonu */
        void remove(T elm);
        /* container da eleman arama fonksiyonu */
        int search(T elm);
```

```
                    /* container in ilk elemanini dondurur */
                    T first();
                    /* container in sonraki elemanini dondurur */
                    T next();
                    /* return the container size */
                    int contSize() const;
        };
```

Ödevin içeriği:

Abstract bir Container classı ve bu class dan türeyen SortedContainer, SetContainer ve SortedSetContainer classlari vardir.

Ödevin Çalıştırılma Şekli:

  g++ -c HW08_111044043_Container.cpp HW08_111044043_SetContainer.cpp HW08_111044043_SortedContainer.cpp HW08_111044043_SortedSetContainer.cpp HW08_111044043_Test.cpp
  g++ -o hw08 HW08_111044043_Container.o HW08_111044043_SetContainer.o HW08_111044043_SortedContainer.o HW08_111044043_SortedSetContainer.o HW08_111044043_Test.o
  ./hw08

Ya da Makefile çalıştırabilirsiniz.
(Dosyanın bulunduğu klasöre girip, Terminale **make** yazmanız yeterli olacaktır.)

Ekran Görüntüleri: