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| CSE 225 Section 6 |
| Assignment 1 |
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**main.cpp**

#include <iostream>

#include "sortedList.h"

using namespace std;

int main()

{

sortedList L;

L.insert(3);

L.insert(7);

L.insert(5);

L.print();

L.remove(5);

L.print();

cout << L.search(7);

return 0;

}

**sortedList.h**

#ifndef SORTEDLIST\_H

#define SORTEDLIST\_H

#include <iostream>

class sortedList

{

public:

sortedList();

void insert(int);

int search(int);

void remove(int);

void print();

private:

int length;

int data[50];

};

#endif // SORTEDLIST\_H

**sortedList.cpp**

#include <iostream>

#include "sortedList.h"

using namespace std;

sortedList::sortedList()

{

length = 0;

}

void sortedList::insert(int num)

{

int j = length - 1;

while (j >= 0 && data[j] > num)

{

data[j + 1] = data[j];

j--;

}

data[j + 1] = num;

length++;

}

int sortedList::search(int value )

{

int first, middle, last;

first = 0;

last = length - 1;

while (true)

{

middle = (first + last) / 2;

if (data[middle] == value)

return middle;

else if (first >last)

return -1;

else if (value < data[middle])

last = middle - 1;

else

first = middle + 1;

}

}

void sortedList::remove(int num)

{

int index = -1;

for (int i = 0; i < length; i++)

{

if (data[i] == num)

{

index = i;

break;

}

else if (data[i] > num)

{

break;

}

}

if (index == -1) return;

for (int i = index; i < length - 1; i++)

{

data[i] = data[i + 1];

}

length--;

}

void sortedList::print()

{

for (int i=0; i<length; i++)

{

cout << data[i] << "\t";

}

cout << endl;

}

