This header declares the ArrayStack class and its members. An ArrayStack encapsulates the list methods from previous lectures into an object that keeps track of the front of the list. See ArrayStack.cpp for the implementation of the methods.

#ifndef _arraystack_h
#define _arraystack_h

#include <iostream>

using namespace std;

class ArrayStack {
public:
/* Constructs a new empty stack. */
ArrayStack();

/* Destructor; called when stack is thrown out. */
~ArrayStack();

/* Adds the given value to the top of the stack. */
void push(int value);

/* Removes and returns the element on top of the stack. *
* Throws a string exception if stack is empty. *
*/
int pop();

/* Returns the element on top of the stack without removing it.
* Throws a string exception if stack is empty. *
*/
int peek() const;

/* Returns true if the stack does not contain any elements. */
bool isEmpty() const;

/* Prints the contents of a stack to an output stream such as cout. */
friend ostream& operator <<(ostream& out, ArrayStack& stack);

private:
int* _elements; // array of elements
int _size; // number of elements on stack
int _capacity; // array length

/* Makes the stack's internal array twice as large. */
void enlargeArray();
};
#endif