/*
* arraystack.h
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* 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