CSE 232 SS13 Lab Session 13

1. C++ Vector
	1. Functions both as a dynamically allocated array and as a list/stack
		1. Array-based implementation
		2. Capacity refers to array capacity, size to list/stack size
			1. Capacity – number of objects in vector
			2. Size – number of objects in abstract list/stack
		3. Set initial capacity/size using constructor
			1. Default constructor: both 0
			2. Fill constructor: capacity and size from first parameter, initial value for each element from optional second parameter
	2. Array features (do NOT change size):
		1. Reallocate using reserve()
			1. Note: reserve() can only increase capacity, not size
		2. Random access (by index) with operator[]
	3. List/stack features:
		1. push\_back() [modifies size]
		2. pop\_back() [modifies size]
		3. front()
		4. back()
	4. Can also insert/remove a range of elements (not used in this lab)
		1. insert [modifies size]
		2. remove [modifies size]
	5. Provides iterators like other STL containers
		1. Iterator is a wrapper for a pointer, giving the user access to elements in a data container
		2. Member functions return an iterator, which is used in a loop
			1. Always start at begin() and stop one before end()
		3. Alternative to looping by index in “vector”
		4. “list” can only be traversed using iterators