

Basic vector functions :	
declaration : <code>vector&lt;data-type&gt; vector-name;</code> eg : <code>vector&lt;int&gt; a; vector&lt;char&gt; c;</code>	
assign : <code>vector.assign(n, v);</code> //inserts n elements with value 'v' into the vector. //complexity : $O(n)$	
<code>vector.push_back(v);</code> //adds an element of value 'v' at the end of the vector. //complexity : $O(1)$	
<code>vector.begin();</code> //returns an iterator(pointer) to the beginning of the vector. //complexity : $O(1)$	
<code>vector.end();</code> //returns an iterator(pointer) to the end of the vector. //complexity : $O(1)$	
<code>vector.size();</code> //returns the number of elements currently in the vector. //complexity : $O(1)$	
<code>vector.clear();</code> //deletes every element in the vector making it empty. //complexity : $O(n)$ where n is the size of vector	

Array	Vector
Declaration	
<code>//data-type arrayname[size]</code> <code>int myArray[n]</code>	<code>//vector&lt;data-type&gt; myVector;</code> <code>vector&lt;int&gt; myVector;</code>
Initialization	
<code>for(int i = 0; i &lt; n; i++) myArray[i] = 0;</code>	<code>myVector.assign(n, 0);</code>
Input	
<code>for(int i = 0; i &lt; n; i++) cin &gt;&gt; myArray[i];</code>	<code>myVector.assign(n, 0);</code> <code>for(int i = 0; i &lt; n; i++) cin &gt;&gt; myVector[i];</code> OR <code>int temp;</code> <code>for(int i = 0; i &lt; n; i++)</code> <code>{</code> <code>    cin &gt;&gt; temp;</code> <code>    myVector.push_back(temp);</code> <code>}</code>
Output	
<code>for(int i = 0; i &lt; n; i++) cout &lt;&lt; myArray[i];</code>	<code>for(int i = 0; i &lt; n; i++) cout &lt;&lt; myVector[i];</code>
Sort the entire range //sort syntax : <code>sort(pointer to first element, pointer to last element + 1);</code>	
<code>sort(myArray, myArray + n);</code>	<code>sort(myVector.begin(), myVector.end());</code>
Sort from $i^{\text{th}}$ element to $j^{\text{th}}$ element	
<code>sort(myArray + i, myArray + i + j + 1);</code>	<code>sort(myVector.begin() + i, myVector.begin() + i + j + 1);</code>
Add more elements to the range	
NOT POSSIBLE.. arrays suck!!	<code>vector&lt;int&gt; myVec = {1,2,3,4,5};</code> <code>myVec.push_back(6);</code> <code>myVec.push_back(7);</code> <code>//now myVec = {1, 2, 3, 4, 5, 6, 7}</code>

NOTE : the C++ library sort function has complexity  $O(n\log(n))$  where n is the number of elements to be sorted