**Chapter 8**

**Knowledge Goals**

* To learn what an array is and how it is implemented.
* To understand how an array is instantiated.
* To understand the differences between an array of primitive data types and an array of objects.
* To understand how array elements are organized and how they can be accessed.
* To learn how to process the elements of an array.
* To understand what operations can be performed on arrays.
* To understand various sorting algorithms: selection sort, insertion sort.
* To understand how sequential search works.
* To understand how binary search (on a sorted array) works.
* To learn that a method can accept a variable number of arguments (varargs).

**Skill Goals**

*To be able to:*

* Declare and instantiate an array, including an array of objects.
* Access elements of an array.
* Use a for loop to process the elements of an array.
* Copy the elements of one array into another array of the same or larger size.
* Compare arrays for equality.
* Display array data as a bar chart.
* Use arrays as instance variables of classes and as parameters and return values of methods.
* Retrieve command line arguments sent to an application.
* Perform a sequential search on an array.
* Implement Selection Sort.
* Implement Insertion Sort.
* Implement Binary Search (on a sorted array).
* Use an array of counters.
* Implement and call a method that accepts a variable number of arguments (varargs).