Chapter 16: Searching, Sorting, and the vector Type

Recall:

* In Chapter 8 we were introduced to arrays:
  + one-dimensional: lists
  + two-dimensional: tables (rows and columns)
* We were also introduced to our first two advanced algorithms:
  + Algorithms are step-by-step process to solve a problem
  + Sequential Search – Example 8-8
  + Selection sort – Example 8-9
* Let’s quickly review the sequential search algorithm

Chapter 16 Notes and highlights:

* We are introduced to a new advance algorithm to reduce the amount of time to manipulate the data in a list:
  + Bubble sort – Example 16-1
  + Insertion sort: Improves or reduces sorting
  + Binary search:
    - Much faster than sequential search
    - Must sort (put in order) before using the binary search
* We are introduced to a new data type
  + Vector also known as class vector
  + Vectors are used for unknown number of elements
  + Vectors, like arrays, are zero-based
  + Vectors have various function operations (Table 16-2 page 1070):
    - at
    - front
    - back
    - clear
    - push\_back (most commonly used) – Example 16-5
    - pop\_back
    - empty
    - size
    - resize
    - max\_size
* Let’s go over one of the exercises due this week