CS Notes 11-29-21

**Searching**

* Linear Search
  + Cost is defined by the number of basic operations in our solution
  + n = # of items in list
* Binary Search
  + Cost (worst case) = log base 2 of n
  + Split list in half and check sides to see if the value is in each half.
  + If it is in one half, throw the other half away. Repeat until you have found your value.

**Sorting**

* Insertion Sort
  + Using comparison to sort a list by comparing the values to other parts of the list
  + You start adding values instead of having a full list
  + Worst case performance is O(n^2)
* Bubble Sort
  + Compare pairs of values and swap them if they are out of order (like a bubble rising to the top of water)
  + N-1 total repetitions
  + Total comparisons = (n-1)(n-1) which is also O(n^2) (its going to cost n^2 comparisons)

**Finalizing the Semester**

* Send screenshot of course evaluation submission
* Final Exam is completely Comprehensive
* On paper
* Same Style as other exams
* Tracing. Short answer, flowchart, and coding problems
* Study by working backwards
* Class on Wednesday
* In the same room for the final