CMPE130 Midterm Review, 7-8 Problems in 75 minutes

\*note – Group presentation is 1 slide only

1. Internet slides
   1. Focus on how to do search algorithm involving the internet
   2. What is the input/output/data structure/process complexity
   3. [Slide 22] How to improve the process
   4. Express this in pseudo code
      1. Internet algorithm
         1. Equation related to it
2. Sorting Slides
   1. Problems on the midterm would consistent of a provided pseudo code with possibly the loop area missing where you need to fill in.
   2. Difference between comparison and non-comparison based examples but no pseudo code is needed for the non-comparison based.
   3. 4 Sorting Algorithm
      1. Insertion, merge, quick, heap.
         1. Definition
         2. Procedure
         3. Remember these pseudo codes, no actual coding will be needed.
         4. Complexity and the comparison between these four.
         5. Brute force vs best case vs average case
         6. Why one is better than the other
      2. Heap Sort
         1. [Slide 7/8] what’s a heap and the relation between diagram A and B
         2. [Slide 9] Pseudo code
         3. Heapify/heap sort
3. Internet Security Slides
   1. [Slide 16->] Two different types of keys
      1. Symmetric vs public
      2. [Slide 23] Remember the RSA Algorithm
      3. Study the “Choosing Keys” Slide
      4. No calculation is needed for RSA, just the pseudo code.
4. String Matching Slides
   1. [Slide 4] What’s the brute force algorithm
   2. [Slide 9] KMP Algorithm
      1. Need to know how to calculate the prefix
      2. Complexity after the prefix function
   3. [Slide 15] Know the subroutine.