

Instructions

1. This is an individual assignment. You must do your own work.
2. Show all work. Incomplete solutions will **not** receive full credit

Problem 1 (5 Points)

Build a max heap in $O(n)$ time by constructing it from the sequence of values 38 89 61 54 75 80 74 90 91 12.

Problem 2 (5 points)

Given an array of unsorted values, describe how heapsort is done in around five steps. Be sure to be specific, like describing which type of heap should be built.

Problem 3 (6 points)

Do a breadth-first-search traversal starting at W for Figure 1 and draw the resulting tree.

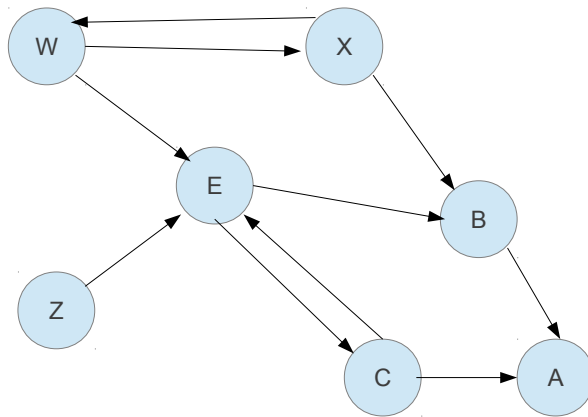


Figure 1: A graph