1. (10 pts) Consider the following list of values stored in locations 1 through 10 of an array.

   10, 6, 12, 18, 5, 9, 7, 2, 4, 3

   Show the contents of the array after running the Build Heap for loop described above.

   **Solution:**

   2, 3, 7, 4, 5, 9, 12, 18, 6, 10

2. (10 pts) Explain how merge be used to implement insert and delete_min, and then write code to do so.

   **Solution:** For insert, create a single tree with a single node and merge this trivial tree with the original tree. For delete_min, merge the left and right subtrees of the root node.

3. (Do NOT submit your solution to this exercise for grading) Show the state of a leftist heap at the end of

   ```
   insert 1, 2, 3, 4, 5, 6
   delete_min
   insert 7, 8
   delete_min
   delete_min
   ```

   **Solution:** Here's what I came up with. The three trees are shown left-to-right: