Fill in your name and NetID.
Please do not open the quiz until I tell you to do so.

**Directions:** Answer the following questions to the best of your ability. When appropriate, we encourage you to show your work, to help us understand your thought process. Quizzes count toward your grade; please take them seriously.
1. A heap is a binary tree. But it’s not a Binary Search Tree. Consider a single node (and its children) in a **max heap**. What is the relationship between the parent and two children?

**Solution:** The parent has a key which is \( \geq \) both of its children’s keys.

2. What special structural property does a heap have?

**Solution:** Every level is full, except for the last - and in the last, all of the nodes that are present are to the left. (That is, there are no holes inside the tree, anywhere.)

3. Because of its special structural property, a heap doesn’t have to be stored in linked nodes; it is stored some other way. What sort of data structure is used to store a heap?

**Solution:** An array