Quiz 5

1) Starting with an empty heap, draw the final result of adding the following numbers in the order given to a min heap (smallest value easily accessed): 3, 5, 2, 1, 9, 4 (3 points)

2) Given the heap you drew for number one, draw the heap that results if you remove the smallest element and keep the heap property. (2 points)
3) MyHeap is designed to be an implementation of a heap that holds integers, with the smallest integer easily accessed.

```java
public class MyHeap{
    private int[] theArray;
    private int firstAvailable;

    public MyHeap(int n){
        theArray = new int[n+1];
        firstAvailable = 1;
    }

    public void add(int n){
        theArray[firstAvailable] = n;
        int currentIndex = firstAvailable;
        firstAvailable++;
        while(theArray[currentIndex / 2] < theArray[currentIndex]){ // was missing closing brace
            int t = theArray[currentIndex / 2];
            theArray[currentIndex / 2] = theArray[currentIndex];
            theArray[currentIndex] = t;
            currentIndex = currentIndex / 2;
        }
    }

    public int removeMin();
}
```

Write the code for `add(int n)`. (5 points)