QUIZ

1. Provide recurrence equation for the following in terms of T(n) and also calculate worst case complexity.

```
// initially called with a = 0, b = N - 1
Foo(A[0..N-1], v, a, b) {
        if (b < a)
                return a
        k = (a + b) / 2
        if (A[mid] >= v)
                return Foo(A, v, a, k-1)
        else
        return Foo(A, v, k+1, b)
}
```

2. Prove or disprove: $\mathbf{5n^2 = O(n)}$

3. Use a recursion tree to determine a good tight asymptotic upper bound on
   $T(n) = T(n/2) + 1$

You have to draw recursion tree, determine the height of the tree, cost at each level in order to calculate asymptotic upper bound.