1. List and explain the steps used to analyze the time complexity of a recursive algorithm (provide as much detail as possible).

2. Consider the following recurrence relation.

\[
T(n) = \begin{cases} 
2 & \text{if } n = 0, 1 \\
T(\lfloor \frac{2n}{3} \rfloor) + \log n & \text{if } n > 1 
\end{cases}
\]

Find upper and lower bounds on the value of \(T(n)\), using the Master Theorem. Then try to find a tight bound.