

Instructions

1. This is an individual assignment. You must do your own work.
2. Show all work. Incomplete solutions will **not** receive full credit

Problem 1 (6 Points)

Find the correct closed-form solution for recurrence relation using the expanding recurrence technique. *Show* how you got the solution. Don't just state the solution.

$$T(n) = T\left(\frac{n}{2}\right) + c$$

$$T(1) = C_0$$

Problem 2 (5 points)

Prove that $4n \log n \in \Theta(n \log n)$. *Hint: you don't need to use an inductive proof*