

Exercise 2.2

May 14, 2022

3. Base case: for $n = 2$, $T(2) = 2lg2 = 2$
Inductive steps:

$$\begin{aligned}T(2n) &= 2T(n) + 2n \\&= 2nlg n + 2n \\&= 2n(lg n + 1) \\&= 2nlg 2n\end{aligned}$$

- 4.