CS 173 Discussion 11: Series Summations and Recurrences

Date: November 7/8, 2019.

Problem 1. What is the sum of the first n (positive) odd integers? That is, what is $\sum_{i=0}^{n-1}(2i+1)$?

Problem 2. Give asymptotically tight solutions to the following recurrences.

1. $T(n) = T(\sqrt{n}) + \log n$ for $n \geq 4$ and $T(n) = 1$ for $1 \leq n < 4$.
2. $T(n) = T(n/5) + T(n/10) + T(7n/10) + n$ for $n \geq 20$ and $T(n) = 1$ for $1 \leq n < 20$.