Analysis of Algorithms

HOMEWORK IV

Due on October 27, 2025

1. Implement using C language, the RBT insert, search, minimum, maximum, delete operations, then

   (a) Empirically Answer if the theoretical complexities are correct.

2. Implement the Matrix Multiplication Algorithm (Dynamic Programming) in C language, then

   (a) Empirically Answer if the theoretical complexities are correct.

3. Implement the Hoffman compression code by

   (a) Implement the C min heap
   (b) Then the rest of the algorithm
   (c) Empirically Answer if the theoretical complexities are correct.