

Homework 3: RedBlack trees and B-trees

Due date

Sections 1071 and 1073: Tue 4/5

Section 1072: Mon 4/4

1. (10 points) Show the red-black trees after successively inserting the keys 41, 38, 31, 12, 19, 8 into an initially empty red-black tree. You **MUST** show the tree after each key is inserted.
2. (10 points) Show the result of inserting the elements 1, 3, 5, 7, 9, 11, 6 into an initially empty B-tree with $M = 4$ and $L = 3$. You **MUST** show the tree after each key is inserted.
3. (5 points) Give the heights of the shortest and tallest B-trees of 1024 elements with $M = 4$, $L = 4$.