CS127 Homework #5

Due: October 31st, 2018 6:00 P.M.

Handing In

Upload your homework to Gradescope.
Please write your Banner ID on your submission. Do not write your name on the submission.

Warmup #1

Explain the steps you would take when an insertion into a B-tree leads to a leaf node overflowing. Why can’t the inserted value fit in the node?

Warmup #2

What are the differences between B+-tree and B-tree? What are the advantages of a B-tree over a B+-tree? B+-tree over a B-tree? (Please list at least 1 advantage each with the explanation)

Problem 3 (To Be Graded)

Construct a B+-tree for the following set of key values: (4, 15, 5, 14, 6, 13, 7, 12, 8, 11, 9, 10)

Assume that the tree is initially empty and values are added in the above order. Construct B+-trees for the number of pointers is 5 and then delete (in order) values 4, 5 and 6. Only show the steps when the node needs to split or merge.