CSE441: DATABASE SYSTEMS

ASSIGNMENT 3 (B+ Tree Implementation)

DEADLINE: 9:00 pm, 10th March 2020

In this assignment, you have to implement the B+ tree, which is used in the SQL range queries.

Programming Languages Allowed: Python and C++

Implementation:

1. Implement a B+ tree to handle the following type of queries
   a. INSERT X - insert X into the B+ tree
   b. FIND X - print YES if X is already inserted, else NO
   c. COUNT X - print number of occurrences of X in B+tree
   d. RANGE X Y - print number of elements in range x to y (both x and y included)
2. Constraints:
   a. $-10^9 <= X <= 10^9$, $-10^9 <= Y <= 10^9$
   b. The number of queries will be less than 10^6.

Input:

1. The input argument consists of a file name.
2. Each line in the file consists of one of the above-mentioned queries.

Output:

1. Write outputs of the corresponding queries in a separate file or command-line.

Deliverables

Create a folder with RollNuber_Assignment3 and put the following into it
1. Python/C++ source codes
2. A README file explaining how to execute your code and the basic implementation details.
 Zip the folder and upload.

NOTE: You are not allowed to use inbuilt data structures to handle these queries

Strict action will be taken for copying in the Assignments.