

CS 202 fall 2017, quiz 5.

cs202 login: _____

Name: _____

Each question is 1 point and is graded as right, wrong, or half credit. The total will be divided so the quiz is worth 6 HW/quiz points ??

For the following sequence of operations, write what each data structure would look like at the end.

insert 3, insert 22, insert 7, insert 12, delete 7, insert 17, insert 14, insert 2, delete 17, insert 16

Stack (*insert is push, delete is pop and ignores its argument*)

Queue (*insert is enqueue, delete is dequeue and ignores its argument*)

Binary search tree (*not auto-balancing*)

Unsorted array

Hash table (*hash table of size 8 with hash function $h(x) = x \% 8$*)

Sorted array

For each of the following data structures, write a “big O expression” for the best-case and worst-case running time for the lookup operation when there are already n items in the data structure already.

Stack

Queue

Binary search tree

Unsorted array

Hash table

Sorted array