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Microsoft Interview Experience | Set 53

- Difficulty Level :\nExpert
- Last Updated :\n17 Jun, 2015

Round 0 \xe2\x80\x93
Second max element in BST

Sort an array of integers such that \xe2\x80\x93
\xe2\x80\x93 All odd numbers are in left side and sorted in increasing order.
\xe2\x80\x93 all even numbers are sorted in decreasing order and start where odd numbers end.
Eg \xe2\x80\x93
I/P \xe2\x80\x93 2, 3, 4, 5, 8 , 10, 12, 11
O/P \xe2\x80\x93 3, 5, 11, 12, 10, 8, 4, 2

I used quick sort partition logic to separate odd and even numbers and then ran quick sort on both halves.

Round 1 \xe2\x80\x93
Assume an RAM of size 1024 bytes. There are multiple processes running on the system. Your application will get this information \xe2\x80\x93
(Thread Id, Memory Block, time, R/W) \xe2\x80\x93 which essentially tells that the thread T was using memory block M at time t and operation could be read or write.

Memory conflict is defined as \xe2\x80\x93
\xe2\x80\x93 Let x be standard unit of time measurement.
\xe2\x80\x93 Multiple read operations at the same location are not cause of conflict.
\xe2\x80\x93 One write operation between x+5 to x-5 to location M, will be cause of conflict for a thread accessing location M at time x.
\xe2\x80\x93 Example \xe2\x80\x93 If thread T1 accessed memory location M at time x+1 and if a thread T2 accesses location M before time x+6 then T1 and T2 are candidate of conflict given one of then do write operation.

You are given with the list of threads accessing memory locations, you have to find conflicts.

Example \xe2\x80\x93
(1, 512, 1, R)
(2, 432, 2, W)
(3, 512, 3, R)
(4, 932, 4, R)
(5, 512, 5, W)
(6, 932, 6, R)
(7, 835, 7, R)
(8, 432, 8, R)

O/P \xe2\x80\x93
Thread 1 & 3 conflicts with thread 5
All other operations are safe.

Round 2 \xe2\x80\x93
https://www.geeksforgeeks.org/turn-an-image-by-90-degree/

Level order traversal ->

Using queue
Using recursion

Round 3 \xe2\x80\x93
http://stackoverflow.com/questions/746082/how-to-find-list-of-possible-words-from-a-letter-matrix-boggle-solver
> My solution was mutation of this \xe2\x80\x93 https://www.geeksforgeeks.org/mobile-numeric-keypad-problem/

Round 4 \xe2\x80\x93
3D boggle solver and 3D cross word solver.
Design data structure to store and give a solution.

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All Practice Problems for Microsoft !

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