

COMP 182 Quiz 4 — Monday May 7, 2007

For each question select the best answer. All questions are worth 1 point. The last three questions will have any answer counted as correct.

For the first five problems assume you have a hash table with size 7 and hash function $h(k) = k \% 7$.

Problem 1. Assume you use the collision resolution scheme separate chaining (each position contains an array of linked lists) and you attempt to insert 11, 4, and 18. What position will contain 18?

- a) 1 b) 2 c) 4 d) 6 e) other

Problem 2. Assume you use the collision resolution scheme double hashing with $d(k) = k \% 6 + 1$ and you attempt to insert 11, 4, and 18. What position would contain 4?

- a) 1 b) 2 c) 4 d) 6 e) other

Problem 3. Assume you use the collision resolution scheme double hashing with $d(k) = k \% 6 + 1$ and you attempt to insert 11, 4, and 18. What position would contain 18?

- a) 1 b) 2 c) 4 d) 6 e) other - 5

Problem 4. Assume you use the collision resolution scheme probing with $g(n) = n$ and you attempt to insert 11, 4, 18. What position would contain 4?

- a) 1 b) 2 c) 4 d) 6 e) other - 5

Problem 5. Assume you use the collision resolution scheme probing with $g(n) = n$ and you attempt to insert 11, 4, 18. What position would contain 18?

- a) 1 b) 2 c) 4 d) 6 e) other

Problem 6. Stacks are first in

- a) Last out b) Last in c) First out d) Harms way e) War/Peace/Hearts of Countrymen

Problem 7. Queues are first in

- a) Last out b) Last in c) First out d) Harms way e) War/Peace/Hearts of Countrymen

Problem 8. Stacks have the operations

- a) Enqueue/Dequeue b) Enqueue/Pop c) Push/Dequeue d) Push/Pop e) Banana

Problem 9. Queues have the operations

- a) Enqueue/Dequeue b) Enqueue/Pop c) Push/Dequeue d) Push/Pop e) Banana

Problem 10. If the root of a binary search tree contains 50 then an item with value 60 will be in
a) the left subtree b) the root c) a leaf d) right subtree e) impossible to tell

Problem 11. Inserting in a binary search tree has worst case time complexity
a) $O(\lg n)$ b) $O(n)$ c) $O(n \lg n)$ d) $O(n^*n)$ e) other

Problem 12. Inserting in a binary search tree has average case time complexity
a) $O(\lg n)$ b) $O(n)$ c) $O(n \lg n)$ d) $O(n^*n)$ e) other

Problem 13. Are you a better programmer than when you started 182?
a) No improvement at all b) Minor improvement c) Reasonable improvement
d) Drastic improvement e) I can program anything

Problem 14. What topic caused the most difficulty in this course?
a) Trees b) Hash Tables c) Programming d) Linked Lists e) Vectors

Problem 15. Do you think you'll be prepared for 282?
a) No b) Sort of c) Won't embarrass you d) Yes e) Overprepared