CS2050 –C Programming Quiz 6 SPRING 2017

DO NOT PUT YOUR ANSWERS ON THIS SHEET – RECORD THEM ON THE ANSWER SHEET ONLY.

1. When discussing the Queue ADT the operations of “enqueue()” and “dequeue()” of data in the queue were not equal in time. In our INITIAL discussion of queues

a. which operation was INITIALLY figured at O(1) complexity?

b. which operation was INITIALLY figured a O(N) complexity?

c. what change was made to the algorithm to get the enque() and dequeue() to be of equal time?

d. what was the COMPLEXITY (O) for enqueue() and dequeue() when the algorithm was

changed?

2. T / F It is important to see an ADT to determine if it is a queue or a stack or a link list ADT

3. A BENEFIT of using dynamic memory allocation with ADTs OVER static memory with arrays is

a. insertions and deletions are much easier and more efficient with arrays

b. the overhead associated with loading address into pointers

c. insertions and deletions are much easier and more efficicent to with list ADTs

d. none of the above

4. T / F By creating “start” and “end” pointers for a list it is possible to efficiently support the

enqueue and dequeue operations in O(1) regardless of which end is defined as being the rear or the front.

5. Technically the difference between a linear linked list, a stack and a queue ADT is  
 a. the data structures of queues are much more complex than stacks or linked lists

b. technically there is no difference other than the algorithm used to process them

c. you can’t do enqueue() and dequeue() on a stack

d. linked lists can be sorted but stacks and queues cannot

6. T / F A familiar example of the use of a stack is the “undo” facility offered in many software

products such as Photoshop and Word.

7. With a stack ADT it turns out that Push() and Pop() can both be supported to have \_\_\_\_\_\_\_

complexity.

CS2050 – C Programming Quiz 6 NAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

SPRING 2017 LAB SECTION \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ANSWERS

1. a. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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d. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. T / F

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. T / F

5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. T / F

7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_