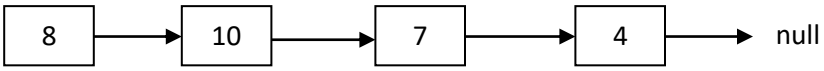
CIS 55
Exercise 3, Due no later than 08-Oct-2021, 11:59pm Pacific Time

Below is your exercise for linked lists. For submitting your answers, you can either send me an updated Word document with your answers, email your answers directly, or even take a screen shot of your work on paper if you like. In all cases, email me your answers when you feel ready.

True or False (12 points)
For each statement below, indicate whether you think it is True or False. If you like, you can provide a description of your answer for partial credit in case you are incorrect.

1) Inserting a node at the beginning of the list is O(1)
2) The insert algorithm first checks to see if the linked list is at full capacity
3) During the search, it is important that the head node always stays set to the first element of the list
4) Delete is O(1) in the worst case because there is no shift after removing the node
5) Update is O(n) because it needs to perform a search for the element in the list
6) In the delete algorithm, the "previous" node reference is needed in case the element is not found in the list
7) Appending a new node to the end of the list is O(log n)
8) If the data is sorted in a Linked List, you can use binary search to find an element and its performance is O(log n)

Use the standard linked list below to answer True/False statements 9-12:



9) The "head" pointer of this list is pointing to Node 4
10) If we called "insert(5)", the new node's "next" pointer will point to Node 8
11) If we called "delete(10)", Node 7's "next" pointer will point to Node 8
12) If we called "search(20)", the "head" pointer will be at Node 4 after the search function ends