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CS300 DSA: Analysis and Design

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Module 3 Assignment

* **Code Reflection:** A brief explanation of the code and its purpose, and a brief discussion of your experience in developing it, including any issues that you encountered while completing the exercise and what approaches you took to solve them
  + This code reads data from a file and incorporates that data into a linked list. With this linked list, we have written methods to append, prepend, remove and search for specific parts of the linked list. There is also a method to display all of the data. I had trouble translating what I know from the curriculum into working pieces of code, but I managed to get it somewhat right. Some people had similar issues in this class, and they helped me in one of the discussions. An issue that I can’t seem to figure out is why the code won’t remove the found data. I have tried many different solutions, but I ran out of time. Any insight into why that doesn’t work would be greatly appreciated.
* **Pseudocode or Flowchart:** A pseudocode or flowchart description of the code that is clear and understandable and captures accurate logic to translate to the programming language.

**Append**

Create new node

If the head is empty

Head and tail are both equal to new node

Else

the current tail node points to the new node

set tail equal to new node

increment the size of the list

**Prepend**

Create new node

Assign new node’s data with method parameter

If the head isn’t empty

New node’s next node points to the current head

Head is equal to the new node

Increment the size of the list

**Remove**

If the data at the head is the same as the method parameter

The head points to the next node

Decrease the size of the array

Loop through the list

If the next node’s data and the current nodes’ data match

Current node points to the node after next

Decrease the size of the list

**Search**

If the matching node is the head

Remove the head and decrease the size of the list

Loop through the list

If the current node matches, data is returned

If not, keep looping through list

Return the current bid data

**Print List**

Loop through the list

Output each item in the list.