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I made the code as modular as I could. There are still errors that appear whenever a bid is removed that doesn’t exist, but it does successfully remove bids that do exist. Using pointers for a linked list was difficult for me to understand, especially with the arrow syntax that I hadn’t used before. I was able to implement the append/prepend, print, remove, and search logic, but I looked up a lot of help on stackoverflow to understand better what I was doing. The pseudocode in zybooks and within the program was helpful to implement the actual code in the end.

A large issue I had was trying to think of all the different “special” cases, but I ended up going back through zybooks to find the cases like removing a head or tail, or prepending and changing the head pointer. The search logic was especially challenging, because I wasn’t sure how to set an empty bid at first to return an empty bid if the search item didn’t exist.

**Append pseudocode**

Temp->bid = bid  
temp-> next = null  
  
if head = null  
 head & tail = temp  
 increment size  
  
else  
 tail-> next = temp  
 tail = temp  
 increment size

**Prepend pseudocode (same as append, but on the head instead of tail)**

Temp->bid = bid  
temp-> next = null  
  
if head = null  
 head & tail = temp  
 increment size  
  
else  
 head-> next = temp  
 head = temp  
 increment size

**PrintList pseudocode**

While temp != null

Output bidId, title, amount, fund  
 temp = temp ->next

**Remove pseudocode**

Curr = head

Successor = curr -> next

If ( curr bid == bid && curr-> next == null)  
 head & tail = null  
 decrement size  
 return

Else

While curr->bid != remove bid

if successor == remove bid

Curr->next->next = successor  
 curr = curr-> next  
 delete curr  
 decrement size  
 return

Curr = curr-> next   
successor = curr->next

**Search pseudocode**

Curr = head

While curr != null  
 if curr bid == search bid  
 return curr bid

Curr = curr->next

Empty = empty bid  
if curr == null

Return empty