9/16/2020

* Linked List Functions
  + Struggles
    - I was learning exactly how the linked list worked and understanding how to navigate them with code.
    - Also throwing in the circular element made it slightly more confusing and harder to wrap my head around.
  + Accomplishments
    - I was able to get most of the functions implemented.
    - I am beginning to understand linked lists.

9/17/2020 7-9PM

* Radix sort for Array Done
  + Struggles
    - Figuring out how to make recursive and get the function to calculate which digit to look for and do the sort based on.
  + Accomplishments
    - Was finally able to understand the radix on a higher level
    - Able to get myself back into coding java as it had been a while
* Started Linked List Radix Sort
  + Struggles
    - Main struggles were taking the array code and understanding how the process worked and converting it over to the linked list.
    - Struggles of how to implement by bucket array. In the array radix sort, I did arrays within the bucket array. When switching it over to the array, I ended up switching to linked lists within the array in order to solve this. This ended up working really well overall and was super-efficient.
  + Accomplishments
    - My understanding of linked lists is continuing to grow, and I am really liking them.
      * I am understanding how to navigate with them.
    - I was able to solidify the linked list methods as they are necessary for the implementation on the sorts

9/18/2020

* Morning
  + Linked List Radix Sort completed
  + Need to check if Linked List is Sorted
  + Struggles
    - I have an issue with no base case. I am able to get the radix sort to work on any given digit, but from here I need to create the base case. I think I am going to try and see if the list is sorted as my base case.
  + Accomplishments
    - I was able to convert the radix sort on the array to the linked list. Still must get the base case done, but this is working extremely well.
* Evening
  + Got the Linked List is Sorted Check Done.
  + Started radix sort on Array List
  + Tested Radix sort on Array List
  + Talked with group to see what parts each of us were going to do
  + Struggles
    - I struggled initially with the differences between the array and the array list, but after some time their function started coming back to me.
  + Accomplishments
    - Was able to get the Array list radix sort done! It was an easy conversion which was really nice.

9/19/2020

* Morning
  + Merge sort on dynamic array mostly done
  + Need to comment!!!
  + Commented the Code and wrote Java doc on functions that I have written
  + Successes:
    - The merge sort is working most of the time. This means this part of the project can be moved to debugging and we can move on to another part.
    - Javadoc and comments help make the code easier to fix, so this will help in the long run.
  + Struggles:
    - Merge sort duplication issue. I am unsure of the cause at this point.

9/20/2020 (9:00-11:30 AM)

* Finished debugging the merge sort on the dynamic Array.
  + Had a strange duplication issue with the first element in the Array only sometimes though. It was caused by not shifting the duplicated lists, so it always grabbed from the beginning on the list. It is fixed now, just had to add the left to the index I was grabbing when splitting the list down
* Quick Sort with average check on the Dynamic Array completed
  + Successes – got the average check down relatively easy
  + Struggles – recursion on the quick sort. It took me a while to figure out how to get it to loop on itself and what my base case should be, but I was able to figure it out after a lot of debugging.

9/20/2020 (3:30-7:00)

* Merge sort for a circle linked list
  + Struggles: getting anything to work, this is a hard sort to do normally for me and then the linked list is making it harder. Have tried rewriting the merge sort many times now, going to ask for help
  + Success: no bugs I guess

9/22/2020 12:00 to 12:30pm

* Quick sort for Linked List starting to work
  + Need to implement changes to it for it be our own
  + Success: Its working now and is sorting
  + Issues: merge sort still broken

9/23/2020 4:30 to 5:40pm

* Making sure all the code is commented and finished up any last-minute bug fixes, and testing before meeting with group tonight
* Successes:
  + Code is looking a more polished
  + Should be easier to understand with the help of comments
  + Can hopefully remove unneeded functions and lines and such
  + Merge sort is fixed! Had an error with the remove function in the linked list. When the list was size one, then nothing was being removed, because the list is just pointing at itself. This means the base case was never getting hit. So, after I added a condition checking if the tail = tail.next, and if it did, then setting tail to null. This solved the issue extremely well.

Peer Review:

I was unsure if we were supposed to include ourselves or not, so I went did just in case

|  |  |  |  |
| --- | --- | --- | --- |
| Names | Nick (Me) | Jacob | Serigne |
| Contributions | 3 | 2 | 2 |
| Problem-solving | 3 | 3 | 1 |
| Attitude | 3 | 3 | 3 |
| Focus on the task | 3 | 3 | 3 |
| Responsiveness | 2 | 2 | 3 |
| Working with others | 3 | 3 | 3 |
| Total | 17 | 16 | 15 |