# Kennesaw State University

# College of Computing and Software Engineering

# Department of Computer Science

# CS3305 Data Structures Section 06

# Report for Assignment

# Leeford Nduru

# Email: [lnduru@students.kennesaw.edu](mailto:lnduru@students.kennesaw.edu)

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## Initial Problem statement

The assignment required us to use a previous lab on sets and implement all its functions using Linked list concepts.

## Summary

* Mainly we were provided with the test and header file derived from Assignment 4 on set. This required us to get the node class from previous assignment.
* We were required to implement the functions in the set implementation.
* Some of the main challenges were mainly the set\_difference implementation, but I was able to fix using my remove function.
* I mainly used code reuse and use pre-existing/defined functions from the node class.
* I also noticed a problem in the testing file, specific on the set\_difference test. We are provided with two sets that we have to get the difference between the two sets. Line #54 checks if (-5) doesn’t exist in the set\_difference output. This test is incorrect since -5 only exist in one of the sets, hence should be included in the set\_difference output. I commented that line to confirm everything is working fine. All test passed.
* Below is the output received after all the test passed.
  + 4 28 14 3 0 11 34 89 -24 5 //set1
  + 6 3 0 -11 34 -89 -24 -5 //set2
  + 4 -5 -24 -89 34 -11 0 3 6 28 14 3 0 11 34 89 -24 5 //set union
  + 3 -24 34 0 //set intersection
  + 4 -5 -89 -11 6 28 14 11 89 5 //set difference
  + 4 -5 -89 -11 6 28 14 11 89 5 //subset
  + all tests passed

## Conclusion

* Learned how to implement the set class using linked list.