MidTerm Exam: Skill Test	
Course Code: 201L	**Program:** BSCPE
Course Title: Data Structures and Algorithms	**Date Performed:** 09 / 06 / 2025
Section: 2A	**Date Submitted:** 09 / 06 / 2025
Name: Asugas, Kenneth R.	**Instructor:** Engr. Maria Rizette H. Sayo

1.Objectives

1. To implement a singly linked list containing odd integers from 1 to 30.
2. To perform and demonstrate basic linked list operations such as display, append, and delete.

2. Discussion

A singly linked list is a data structure where each element (called a node) has two parts: the data and a link to the next node. Unlike arrays, it doesn't need a fixed size, so we can add or remove elements easily without moving the others.

In this test, I created a linked list that stores odd numbers from 1 to 30. I tried three main operations:

1. Display all nodes – showing all the numbers in the list from start to end.
2. Append a node – adding a new number at the end of the list.
3. Delete a node – removing a specific number from the list.

By doing this test, I learned how linked lists work and saw how they can be used to handle data more flexibly compared to arrays.

3. Materials and Equipment

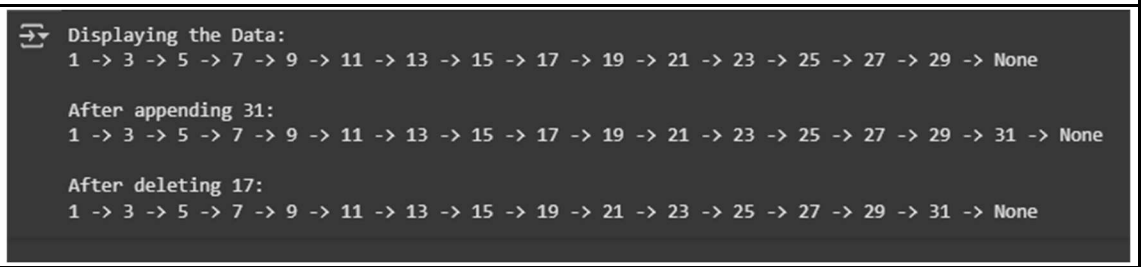
- Desktop Computer
- Google Colab

4. Procedure

1. Defined a Node class containing data and next.
2. Created nodes containing odd integers (1 to 29) and linked them together.
3. Implemented a function display_linked_list() to show the elements.
4. Implemented append_to_linked_list() to add a node at the end.
5. Implemented delete_from_linked_list() to remove a node with a specific value.
6. Tested the program by:
   -Displaying the linked list.
   -Appending a node with value 31.
   -Deleting the node with value 17.

   Refer to this link for the program: [CPE-201L-DSA-2-A/Midterm - Test Skill/Midterm_Test_Skill_Source_Code.ipynb at main · Kenneth-Asugas/CPE-201L-DSA-2-A]

5. Output



6. Conclusion

In this test, I was able to make and try out a singly linked list in Python. I tested the operations like display, append, and delete, and they all worked based on the outputs. From this, I learned that linked lists are more flexible than arrays because it's easier to add or remove data.

Lab Activity Rubric

Criteria	Ratings						Pts
SO 7 PI 1 **Student Outcome 7.1** Acquire and apply new knowledge from outside sources. threshold: 4.8 pts	6 pts Excellent | Educational interests and pursuits exist and flourish outside classroom requirements,knowledge and/or experiences are pursued independently and applies knowledge learned into practice	5 pts Good | Educational interests and pursuits exist and flourish outside classroom requirements,knowledge and/or experiences are pursued independently	4 pts Satisfactory | Look beyond classroom requirements, showing interest in pursuing knowledge independently	3 pts Unsatisfactory | Begins to look beyond classroom requirements, showing interest in pursuing knowledge independently	2 pts Poor | Relies on classroom instruction only	1 pts Very Poor | No initiative or interest in acquiring new knowledge	6 pts
SO 7 PI 2 **Student Outcome 7.2** Learn independently threshold: 4.8 pts	6 pts Excellent | Completes an assigned task independently and practices continuous improvement	5 pts Good | Completes an assigned task without supervision or guidance	4 pts Satisfactory | Requires minimal guidance to complete an assigned task	3 pts Unsatisfactory | Requires detailed or step-by-step instructions to complete a task	2 pts Poor | Shows little interest to complete a task independently	1 pts Very Poor | No interest to complete a task independently	6 pts
SO 7 PI 3 **Student Outcome 7.3** Critical thinking in the broadest context of technological change threshold: 4.8 pts	6 pts Excellent | Synthesizes and integrates information from a variety of sources; formulates a clear and precise perspective; draws appropriate conclusions	5 pts Good | Evaluate information from a variety of sources; formulates a clear and precise perspective.	4 pts Satisfactory | Analyze information from a variety of sources; formulates a clear and precise perspective.	3 pts Unsatisfactory | Apply the gathered information to formulate the problem	2 pts Poor | Gather and summarized the information from a variety of sources but failed to formulate the problem	1 pts Very Poor | Gather information from a variety of sources	6 pts
SO 7 PI 4 **Student Outcome 7.4** Creativity and adaptability to new and emerging technologies threshold: 4.8 pts	6 pts Excellent | Ideas are combined in original and creative ways in line with the new and emerging technology trends to solve a problem or address an issue.	5 pts Good | Ideas are creative and adapt the new knowledge to solve a problem or address an issue	4 pts Satisfactory | Ideas are creative in solving a problem, or address an issue	3 pts Unsatisfactory | Shows some creative ways to solve the problem	2 pts Poor | Shows initiative and attempt to develop creative ideas to solve the problem	1 pts Very Poor | Ideas are copied or restated from the sources consulted	6 pts
							Total Points: 24