MIDTERM PRACTICAL EXAM	
Course Code: CPE 201L	**Program:** BSCPE
Course Title: Data Structure and Algorithm	**Date Performed:** September 6, 2025
Section: 2 - A	**Date Submitted:** September 6, 2025
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1.Objectives

- To implement a singly linked list using Python.
- To perform basic operations such as append, display, and delete.

2. Discussion

- A linked list is a linear data structure where elements (nodes) are connected using pointers. Each node has data and a reference to the next node. This activity shows how to add nodes, traverse them, and delete specific nodes.

3. Materials and Equipment

- Python (programming language).
- Google Colab

4. Procedure

1. Define a Node class with data and a next pointer.
2. Create a LinkedList class with methods: append, display, and delete.
3. Append numbers 1 to 30 (odd only).
4. Display the initial list.
5. Append 31 and display again.
6. Delete node with data 17 and display again.
7. Try deleting 121 (not in list).

5. Output

```
Initial Linked List:

1 -> 3 -> 5 -> 7 -> 9 -> 11 -> 13 -> 15 -> 17 -> 19 -> 21 -> 23 -> 25 -> 27 -> 29 -> None

After Appending 31:

1 -> 3 -> 5 -> 7 -> 9 -> 11 -> 13 -> 15 -> 17 -> 19 -> 21 -> 23 -> 25 -> 27 -> 29 -> 31 -> None

After Deleting 17:

1 -> 3 -> 5 -> 7 -> 9 -> 11 -> 13 -> 15 -> 19 -> 21 -> 23 -> 25 -> 27 -> 29 -> 31 -> None


Node with data 121 not found.
```

6. Conclusion

- The skill test demonstrated how linked lists work and how to perform basic operations like insertion(append), traversal(display), and deletion in Python.

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