Quiz No.1 (Skill Test)	
Course Code: CpE 201L	**Program:** BSCpE
Course Title: Data Structure and Algorithm	**Date Performed:** 08/30/2025
Section: 2A	**Date Submitted:** 08/30/2025
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1.Objectives

-Choose only one(1) Data Structure (Array, Linked-List (Singly, Doubly), Stack, and Queues)
-Create a python program that appends each character of your Full Name and traverse each character.
-Save your python program as Skill-test in your Colab and Github.

2. Discussion

For this task, I chose **Singly Linked List** as the data structure. A linked list is a collection of nodes where each node contains data and a reference to the next node. I created a Python program that appends each character of my full name into the linked list and then traverses the list to display all characters.

Using a linked list allows each character to be stored individually while maintaining the order of the name. The program successfully prints each character followed by an arrow (-->) to show the link between nodes, ending with None to indicate the end of the list. This task helped me understand how linked lists work for sequential data storage and traversal, which is different from arrays where elements are stored in contiguous memory.

3. Materials and Equipment

- Google Colab
- Github
- Pycharm

4. Procedure

This code uses a **singly linked list** to store each character of my full name. It creates a Node for each character and appends it to the linked list. Then it traverses the list and prints all the characters in order with arrows showing the links between them.

```python
class Node:
    def __init__(self, data):
        self.data = data
        self.next = None

class LinkedList:
    def __init__(self):
        self.head = None

    def display(self):
        current = self.head
        while current:
            print(current.data, end=" --> ")
            current = current.next
        print("None")

    def append(self, data):
        new_node = Node(data)
        if not self.head:
            self.head = new_node
            return
        current = self.head
        while current.next:
            current = current.next
        current.next = new_node

print ("-------||LINKED LIST||--------")
if __name__ == '__main__':
    name = LinkedList()
    user = input("Enter your name: ")

    print("\nTraversed name: ")
    for character in user:
        name.append(character)
    name.display()
```

5. Output

```
-------||LINKED LIST||--------
Enter your name: Jhustine Acera Bron

Traversed name:
J --> h --> u --> s --> t --> i --> n --> e -->   --> A --> c --> e --> r --> a -->   --> B --> r --> o --> n --> None
```

The output shows each character of my full name printed in order, separated by arrows (-->) to represent the links between nodes. It ends with None to indicate the end of the linked list. This clearly shows how the linked list stores and traverses each character one by one.

7. Conclusion

This task helped me understand how a singly linked list works by storing and traversing each character of my full name. I learned how to create nodes, append them to the list, and display the data in order. The program and its output clearly showed how linked lists maintain the sequence of elements using links between nodes. Overall, this exercise improved my understanding of basic linked list operations and how they differ from arrays.

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