Activity: Long Test	
Course Code: CPE 201	**Program:** BS In Computer Engineering
Course Title: Data Structure and Algorithm	**Date Performed:** 08/ 30/ 25
Section: BSCpE 2-B	**Date Submitted:** 08/ 30/ 25
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1. Objectives

An array is a special variable, which can hold more than one value at a time.

This has a built in operations such as:

append() which Adds an element at the end of the list, **clear()** Removes all the elements from the list,**copy()** Returns a copy of the list, and etc. (*[#] Author(s). "Title of document," Publisher, Year. [Online]. Available: URL. [Accessed: Date].)*

This activity aims to demonstrate the following techniques and principles:

1. Insert the underscore (_) symbol within each name types.
2. Display the characters each array of names.
3. Display the full name with underscore (_) symbol as a single string using the join function.
4. Lastly, traverse each characters afterwards.

2. Discussion

Nowadays, people make new accounts everywhere. Although some might be aware of how this simple function works, there are still quite a few people who aren't well educated enough to know these. That is why, as a Computer Engineering student, basics like these are important for us, as this explains how each actions we do on the internet functions. Array explains how variables can hold more than one value at a time. Not many people are aware but they are actually using array on everyday internet life, it is just a matter of how deep a human can recognize and appreciate this function.

3. Materials and Equipment

For this activity, I used Google Colab to write a program about an array function of my full name. With the help of w3school.com to assist me during the procedure. Lastly, I used GitHub to upload my work. Also, I used my laptop because it is such a hassle to use the computer due to slow internet speed.

4. Procedure

At first, I tried the "trial and error method", I used different methods to get the best answer I can have. I tried three different methods. One of which is appending each letters of my name which is a little bit redundant and it takes so long to type each of them. That's why I used a better function which is for loop to enumerate each characters which is inside each of my name types. I printed each name types and then display them as a one string. After that, I traverse each characters and display their index.

5. Output

```
My first name is:
['J', 'E', 'R', 'I', 'C', 'K']

My second name is:
['D', 'A', 'V', 'E']

My middle name is:
['D', 'O', 'N', 'O']

My last name is:
['A', 'D', 'O', 'R', 'A', 'C', 'I', 'O', 'N']

My full name is:
['J', 'E', 'R', 'I', 'C', 'K', '_', 'D', 'A', 'V', 'E', '_', 'D', 'O', 'N', 'O', '_', 'A', 'D', 'O', 'R', 'A', 'C', 'I', 'O', 'N']

As single string:
JERICK_DAVE_DONO_ADORACION
```

Figure 1: Output of name types

```
As single string:
JERICK_DAVE_DONO_ADORACION

Traversing each character array:
  INDEX   | CHARACTER
----------------------
Index  0 | 'J'
Index  1 | 'E'
Index  2 | 'R'
Index  3 | 'I'
Index  4 | 'C'
Index  5 | 'K'
Index  6 | '_'
Index  7 | 'D'
Index  8 | 'A'
Index  9 | 'V'
Index 10 | 'E'
Index 11 | '_'
Index 12 | 'D'
Index 13 | 'O'
Index 14 | 'N'
Index 15 | 'O'
Index 16 | '_'
Index 17 | 'A'
Index 18 | 'D'
Index 19 | 'O'
Index 20 | 'R'
Index 21 | 'A'
Index 22 | 'C'
Index 23 | 'I'
Index 24 | 'O'
Index 25 | 'N'

Total characters: 26
```

Figure 2: Output of traversed characters and their corresponding indexes

6. Conclusion

This activity really opened my eyes! As a Computer Engineering newbie, I

always thought arrays were some complex, intimidating concept in programming, but now I realize they're everywhere in our digital lives. When I first started, I had no idea that something as simple as storing my name could teach me so much about how computers manage data.

I remember struggling at first—typing each letter individually with append() felt like a slow, repetitive process. But then I discovered the for loop, and it was like magic! Breaking down "JERICK" into the list ['J', 'E', 'R', 'I', 'C', 'K'] made me feel like a real programmer.

The coolest part came when I used the join() function to stitch everything together with underscores. Seeing "JERICK_DAVE_DONO_ADORACION" appear on screen was such a satisfying moment—it actually worked! And when I traversed each character and checked out the 26 positions with their indices, I finally understood how computers track things so accurately.

This activity showed me that even simple tasks we do online, like creating usernames or filling out forms, rely on array concepts. As a CpE student, I'm starting to realize how important these fundamentals are for understanding more complex topics down the road. I'm still a beginner, but now I actually get why arrays are so useful in programming.

References:

*[1] *Python Lists,* Python Software Foundation, 2023. [Online]. Available: https://docs.python.org/3/tutorial/datastructures.html. [Accessed: Aug. 30, 2025].*

*[2] *Python List Methods,* W3Schools, 2023. [Online]. Available: https://www.w3schools.com/python/python_lists.asp. [Accessed: Aug. 30, 2025].*

*[3] *Array Data Structure,* GeeksforGeeks, 2023. [Online]. Available: https://www.geeksforgeeks.org/array-data-structure/. [Accessed: Aug. 30, 2025].*

*[4] *Python String join() Method,* Programiz, 2023. [Online]. Available: https://www.programiz.com/python-programming/methods/string/join. [Accessed: Aug. 30, 2025].*

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