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| **Long Quiz** | |
| **Course Code: 201L DSA** | **Program: BSCPE** |
| **Course Title: Data Structure Analysis** | **Date Performed: August 30, 2025** |
| **Section: 2B** | **Date Submitted: August 30, 2025** |
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| 1. **Objectives** | |
| Introduction:    Array, in general, refers to an orderly arrangement of data elements. Array is a type of data structure that stores data elements in adjacent locations. Array is considered as linear data structure that stores elements of same data types. Hence, it is also called a linear homogenous data structure.  This laboratory activity aims to implement the principles and techniques in:   * Making an Phyton Code using array as a data structure, solving the phyton code that inserts underscore symbol ( \_ ). * Creating an output that is traversed and reverse the name format is like this(\_Venice, Lou\_Gabrielle, Luminario\_, and the reverse is ecineV\_ elleirbaG\_uoL \_oiranimuL)   - To validate array contents through systematic character-by-character  analysis and display during traversal and reverse operations. | |
| **2. Discussion** | |
| * In this Long Quiz we need to print our full name using these data structures (Array, Link-List, Stack, Queue), I chose Array as my data structure because I already have some knowledge about this function. * An Array is fundamental data structure in computer science that stores a collection of elements, all the same type, in contiguous memory locations. This allows for efficient access and manipulation of the elements using indices. * I chose Array because I can have random access to elements through indexing, which is essential for precise character manipulation and underscore insertion at specific positions within the names. | |
| **3. Materials and Equipment** | |
| * Google Collab * The array data structure implementation within Python's native list functionality. * String manipulation methods for converting between string and array representations. | |
| **4. Procedure** | |
| * I began analyzing the objectives of this skill test, and after I visualize what I am going to do, I proceed to coding. * I first do is initialize the array data structure using phython’s list functionality, and design the individual characters from the input names, allowing for character level manipulation and underscore insertion * I created three distinct formatting functions:   **format\_venice()** to prepend an underscore before the name  **format\_lou\_gabrielle()** to insert an underscore between two name parts  **format\_luminario()** to append an underscore after the name  Each function carefully manipulated the array to achieve the exact required output patterns.   * And I also add a reverse function to my code. | |
| **5. Output** | |
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| **6. Conclusion**    In my conclusion is that array is very flexible for me when I’m doing this kind of program because it’s very effective for random access features allowed for exact letter manipulating the underscore insertion at a certain point. The array has a capacity to reliably and have a precisely performed character level operations that was demonstrated by the solution, which successfully produced all three of the required name forms with ideal underscore placement. It is very effective to demonstrate the basic array operations including traversal, reversal, and element modification. | |
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