Long Quiz: Skills Test	
Course Code: CPE 201L	**Program: BS in Computer Engineering**
Course Title: Data Structures and Algorithms	**Date Performed: 30/08/2025**
Section: BSCpE 2B	**Date Submitted: 30/08/2025**
Name: Yuan Hessed O. Vasig	**Instructor:** Ma'am Rizette Sayo

1. Objectives

- Use **Array** as the data structure for your program.
- Convert my full name into a single underscored string(**eg. YUAN_HESSED_O._VASIG**)
- Traverse the underscored string character-by-character and display the ASCII, Index, Binary and Hex values.
- To enhance understanding of modular programming through the use of functions.
- Being able to use input() function to make the code more efficient
- Using third party like tabulate to format the tabular console output

2. Discussion

- The program begins by proving an input of the name(in this case, my name). Then the string is normalized into words with **split(**) and after that joined using **"_".join(name_parts)** to form an underscored version of the name.
- Converting the string into a list using the **list(underscored_name)** which will then have an array of single character elements, then outputting that said list.
- **enumerate(char_array)** supplies both index and the character as we loop, for each character
- **ord(char)** returns the **ASCII** value
- **bin() and hex()** to return the binary and hex value of the character
- I then got the tuple of (index, char, ascii, binary and hex) then passed to **tabulate()** to render a clean grid on the output

3. Materials and Equipment

- Laptop
- Colab for Code Editor
- Github
- Python(Programing Language)

4. Procedure

- Import tabulate library
- Run the program in colab
- You will be prompt to input your name then press Enter
- Observe if the the input has underscores in between words, and a table containing info about the array of the characters(Index, Character, ASCII, Binary and Hex)
- Submit colab code to Github

5. Output

```
================================================================================
Enter your full name: YUAN HESSED O. VASIG
================================================================================

================================================================================
Full name with underscore in between:
YUAN_HESSED_O._VASIG
================================================================================

================================================================================
Array of characters with underscores:
['Y', 'U', 'A', 'N', '_', 'H', 'E', 'S', 'S', 'E', 'D', '_', 'O', '.', '_', 'V', 'A', 'S', 'I', 'G']
================================================================================

Traversing characters one by one with ASCII, Binary, and Hex values:
```

Index	Character	ASCII	Binary	Hex
0	Y	89	1011001	59
1	U	85	1010101	55
2	A	65	1000001	41
3	N	78	1001110	4e
4	_	95	1011111	5f
5	H	72	1001000	48
6	E	69	1000101	45
7	S	83	1010011	53
8	S	83	1010011	53
9	E	69	1000101	45
10	D	68	1000100	44
11	_	95	1011111	5f
12	O	79	1001111	4f
13	.	46	101110	2e
14	_	95	1011111	5f
15	V	86	1010110	56
16	A	65	1000001	41
17	S	83	1010011	53
18	I	73	1001001	49
19	G	71	1000111	47

6. Conclusion

- Being able to modify or manipulate an array can help you in data structures and algorithm to make the program run more efficiently and output more clean in the process.
- Being able to access or manipulate a certain index in an array can help you have more control in terms of your program resulting in more efficient memory consumption.

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