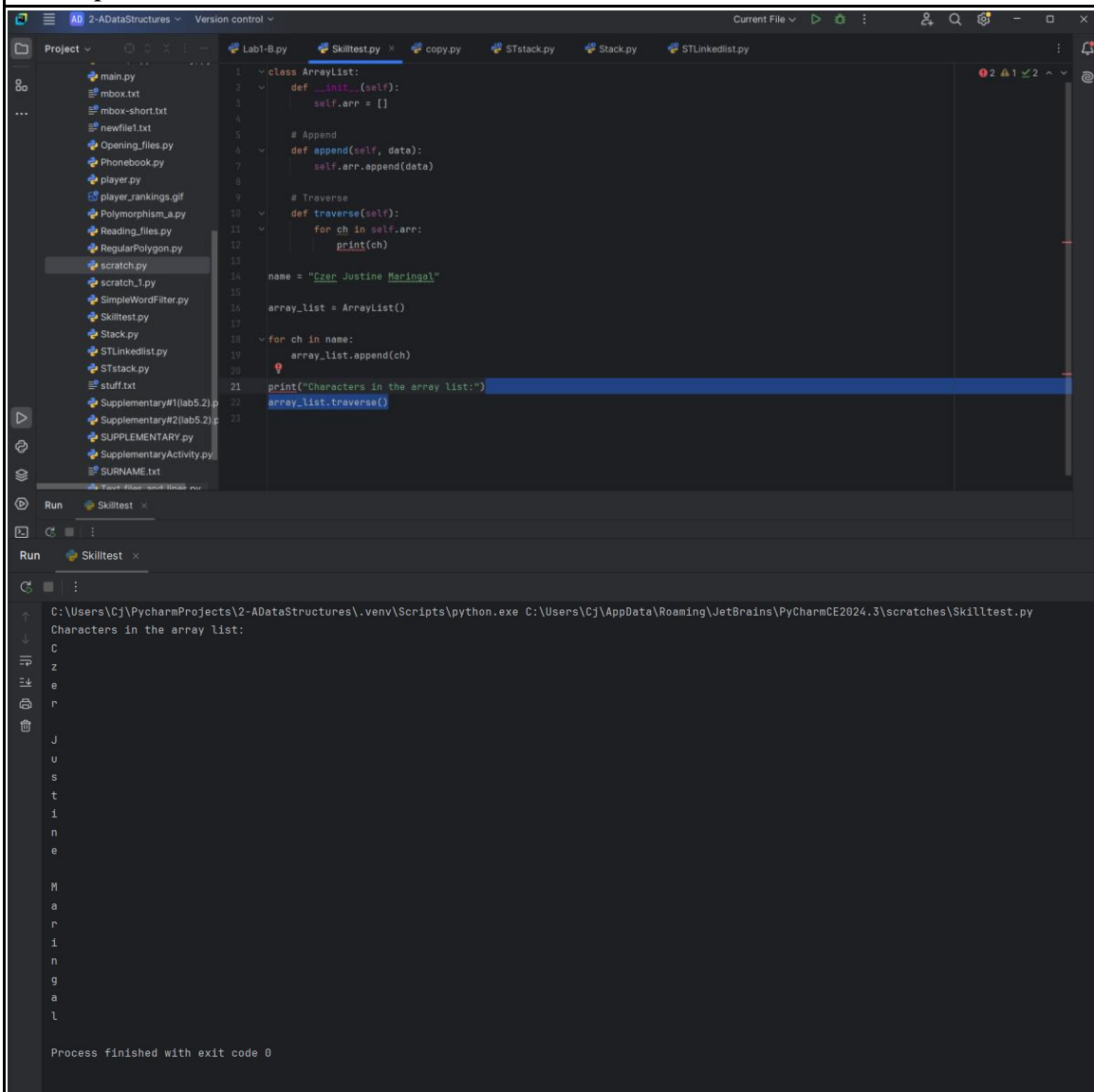


Quiz No. 1 (Skill Test)	
Course Code: 201L	Program: BS CpE
Course Title: Data Structure and Algorithm	Date Performed: Aug 30, 2025
Section: 2A	Date Submitted: Aug 30, 2025
Name: Czer Justine D. Maringal	Instructor: Maria Rizette H. Sayo
1. Objectives	
<ul style="list-style-type: none"> Choose only one data structure: Array, Linked List (singly, doubly), Stack, and Queue Create a program that appends each character of my name and traverses each. To learn independently by developing a program that demonstrates the append and traverse process. To apply critical thinking in structuring a program that clearly represents the logic of appending and traversing. 	
2. Discussion	
<ul style="list-style-type: none"> An array is a collection of items that can be accessed through their index. In Python, the list data type works like an array where we can append elements and traverse them. In this activity, I explored how arrays (lists in Python) can be used to store and organize information. An array is a data structure that holds multiple values in a single variable. Using Python's list, I appended each character of my full name into the array. Traversal was then done by looping through the list and printing each element one by one. This process helped me understand how data is stored in sequence and how it can be accessed efficiently. It also shows how programming concepts connect with data structures. By writing the code independently, I practiced both problem-solving and logical reasoning. 	
3. Materials and Equipment	
<ul style="list-style-type: none"> Computer/Laptop – used to run the Python program. Python (Pycharm and Google Colab) – software environment where I wrote and executed the program. Text Editor/Word – for coding and saving the program. 	
4. Procedure	
<ol style="list-style-type: none"> Declare a string variable containing my full name. Initialize an empty array (list) to store characters. 	

3. Write a loop that iterates through the string, appending each character to the array.
4. Define a traverse() function that prints each element in the array sequentially.
5. Run the program and observe the output.

5. Output



The screenshot displays the PyCharm IDE interface. The left sidebar shows a project tree with various files, including 'Skilltest.py'. The main editor window shows the code for 'Skilltest.py', which defines an 'ArrayList' class with methods for appending and traversing an array. The code is as follows:

```
1 class ArrayList:
2     def __init__(self):
3         self.arr = []
4
5     # Append
6     def append(self, data):
7         self.arr.append(data)
8
9     # Traverse
10    def traverse(self):
11        for ch in self.arr:
12            print(ch)
13
14    name = "Czen Justine Maringal"
15
16    array_list = ArrayList()
17
18    for ch in name:
19        array_list.append(ch)
20
21    print("Characters in the array list:")
22    array_list.traverse()
```

Below the editor, the 'Run' console shows the output of the program:

```
C:\Users\Cj\PycharmProjects\2-ADataStructures\.venv\Scripts\python.exe C:\Users\Cj\AppData\Roaming\JetBrains\PyCharmCE2024.3\scratches\Skilltest.py
Characters in the array list:
C
z
e
r
J
u
s
t
i
n
e
M
a
r
i
n
g
a
l
Process finished with exit code 0
```

6. Conclusion

- Through this activity, I learned how to append and traverse characters using arrays (lists in Python). I gained a deeper understanding of how arrays store data sequentially and how loops allow access to each element. This activity also enhanced my independent learning and problem-solving skills since I applied programming knowledge to design a working solution.

Total Points: 24