

MID TERM - SKILL TEST	
Course Code: CPE 201L	Program: CPE
Course Title: DATA STRUCTURE	Date Performed: 9/06/2025
Section: 2-A	Date Submitted: 9/06/2025
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1.Objectives	
<p>Implement an array of even integers less than 50 but not less than 20 and do the following operations:</p> <ol style="list-style-type: none"> Display elements Find the maximum element Reverse the array. <p>And to measure the capability of students.</p>	
2. Discussion	
<p>In this activity, I implement an array of even integers that are greater than or equal to 20 but less than 50. The task includes displaying each element of the array, finding the maximum element, and finally reversing the array.</p>	
3. Materials and Equipment	
Google Collab and python PyCharm	
4. Procedure	
<p>I first made my algorithm so I could organize my code so it won't look spaghetti code then I use the PyCharm while I don't have an internet so I could run down my code, and lastly when the internet is back I use the Google Collab to save my work and submit</p>	
5. Output	
<p>Algorithm</p> <div> <ol style="list-style-type: none"> 1. Initialize the Array: 2. <u>Modify</u> the First Element: 3. <u>Find</u> the Maximum Element: 4. Reverse the Array: 5. Output the Results: </div>	

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▶ arr = [i for i in range(20, 50, 2)]
print("array elements:", arr)
arr[0] = 14
arr[0] = 20
arr[0] = 22
arr[0] = 25
arr[0] = 24
arr[0] = 26
arr[0] = 28
arr[0] = 30
arr[0] = 32
arr[0] = 34
arr[0] = 36
arr[0] = 38
arr[0] = 40
arr[0] = 42
arr[0] = 44
arr[0] = 46
arr[0] = 48
arr[0] = 50
max_element = max(arr)
print("maximum element:", max_element)
reversed_arr = arr[::-1]
print("reversed element:", reversed_arr)

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➤ array elements: [20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48]
maximum element: 50
reversed element: [48, 46, 44, 42, 40, 38, 36, 34, 32, 30, 28, 26, 24, 22, 50]

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▶ arr = [i for i in range(20, 50, 2)]
print("array elements:", arr)
max_element = max(arr)
print("maximum element:", max_element)
reversed_arr = arr[::-1]
print("reversed element:", reversed_arr)

```

```

➤ array elements: [20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48]
maximum element: 48
reversed element: [48, 46, 44, 42, 40, 38, 36, 34, 32, 30, 28, 26, 24, 22, 20]

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6. Conclusion

In conclusion, this activity was designed to assess students' practical coding abilities in the context of data structures. Through the use of arrays, I was able to efficiently implement the required solution, demonstrating an understanding of how to manipulate and manage data within an array. Throughout the process, I made several improvements and fixes to ensure the final implementation was both functional and optimized. This exercise has enhanced my problem-solving skills and reinforced the importance of choosing the right data structure for a given task.

Further, I implemented multiple approaches to fully utilize the array. By first creating an array of even integers between 20 and 50, I showcased the flexibility of Python's list comprehension technique. This allowed for efficient creation of the array while adhering to the given constraints.

