

MIDTERM: SKILL TEST	
Course Code: CPE 201L	Program: BSCpE
Course Title: Data Structure & Algorithms	Date Performed: 09/06/2025
Section: 2-A	Date Submitted: 09/06/2025
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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 the elements. Find the maximum element Reverse the array 	
2. Discussion	
<p>This program shows the basic operating of an array of even numbers from less than 50 but not less than 20, in short 20 to 48. The array of elements is displayed together with their indexes to show the values stored in each element. After that, the program finds the maximum element in the array. Lastly, the program will reverse the array together with their indexes and the position.</p>	
3. Materials and Equipment	
<ul style="list-style-type: none"> PyCharm – I used to code the program. Google collab - The other program I used to code. Github - The directory which I send the code and the pdf file of this midterm skill test. Words - The application which I used to make the pdf file. 	
4. Procedure	
<ul style="list-style-type: none"> First, I made the function that will show the indexes of the elements by position and then I displayed them together. Next, I made the code find the maximum element in the array and display it also. For the final approach, I used the reverse function to the array and display it. 	

5. Output

```
1 # a.) display the elements
2 arr = [0] * 15
3 arr[0] = 20
4 arr[1] = 22
5 arr[2] = 24
6 arr[3] = 26
7 arr[4] = 28
8 arr[5] = 30
9 arr[6] = 32
10 arr[7] = 34
11 arr[8] = 36
12 arr[9] = 38
13 arr[10] = 40
14 arr[11] = 42
15 arr[12] = 44
16 arr[13] = 46
17 arr[14] = 48
18 print ("Elements of the array:")
19 for i in range(len(arr)):
20     print(f"arr[{i}] = {arr[i]}")
21
22 # b.) Find the maximum element
23 maximum_element = max(arr)
24 print (f"The maximum element is:", maximum_element)
25
26 # c.) Reverse the array
27 reversed_array = arr[::-1]
28 print (f"Reversed array:")
29 for i in range(len(reversed_array)):
30     print(f"arr[{i}] = {reversed_array[i]}")
```

C:\Users\comLabPC26\PycharmProjects\pythonProject\venv\Scripts\python.exe

Elements of the array:

```
arr[0] = 20
arr[1] = 22
arr[2] = 24
arr[3] = 26
arr[4] = 28
arr[5] = 30
arr[6] = 32
arr[7] = 34
arr[8] = 36
arr[9] = 38
arr[10] = 40
arr[11] = 42
arr[12] = 44
arr[13] = 46
arr[14] = 48
The maximum element is: 48
Reversed array:
arr[0] = 48
arr[1] = 46
arr[2] = 44
arr[3] = 42
arr[4] = 40
arr[5] = 38
arr[6] = 36
arr[7] = 34
arr[8] = 32
arr[9] = 30
arr[10] = 28
arr[11] = 26
arr[12] = 24
arr[13] = 22
arr[14] = 20
```

Process finished with exit code 0

6. Conclusion

In conclusion, this program perfectly shows how the array works by displaying the elements with their index, showing the maximum or the largest value of the element, reversing the order of the array. It shows that arrays are very useful in storing multiple values and it will be very helpful in a real-world application.

