Midterm Skills Test							
Course Code: CPE 201L	Program: Bachelor of Science in Computer Engineering						
Course Title: Data Structure and Algorithm	Date Performed: September 6, 2025						
Section: BSCpE 2B	Date Submitted: September 6. 2025						
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1. Objectives

Implement an Array of Integers less than 50 but not less than 20 and do the following operations

- a) Display the Elements
- b) Count the number of elements
- c) Count the number of odd and even integers

2. Discussion

In this activity,

- I implemented the array data structure to generate the elements within a range.
- I applied for loops and if statement to generate the elements and determine whether it is odd or even
- I used enumerate() to enumerate each index of a list
- And len() to count the number of len in each list

3. Materials and Equipment

Hardware: A personal computer or laptop.

Software: Google Colab

4. Procedure

- Create a list of integers starting from 20 up to 49 using range().
 - In this case range(20,50)
- Separate the odd and even integers from the list using conditional list comprehensions.
 - In this case, for even:
 - i for i in range(20,50)
 - If i% 2 == 0
 - For odd:
 - i for i in range(20,50)
 - If i % 2 == !0
- Display the elements with their index using **enumerate()**.
- Count the total number of elements with **len()**.
- Count the number of odd and even integers separately.
- Print the results in an organized format.

5. Output

```
Display Elements:
Index 0: 20
Index 1: 21
Index 2: 22
Index 3: 23
Index 4: 24
Index 5: 25
Index 6: 26
Index 7: 27
Index 8: 28
Index 9: 29
Index 10: 30
Index 11: 31
Index 12: 32
Index 13: 33
Index 14: 34
Index 15: 35
Index 16: 36
Index 17: 37
Index 18: 38
Index 19: 39
Index 20: 40
Index 21: 41
Index 22: 42
Index 23: 43
Index 24: 44
Index 25: 45
Index 26: 46
Index 27: 47
Index 28: 48
Index 29: 49
Count the number of elements: 30
Number of Odd Elements: 15
Number of Even Elements: 15
```

Figure 1: Output of the Code

6. Conclusion

- In this activity, I implemented an array of integers and carried out basic operations. I displayed elements with their indexes, counted the total elements, and identified odd and even numbers. This exercise improved my understanding of how to manipulate arrays, iterate through them, and use conditional filtering in Python.

Criteria			F	Ratin	gs						Pts
© SO 7 Pl 1 Student Outcome 7.1 Acquire and apply new knowledge from outside sources. threshold: 4.8 pts	exist and flourish exist and flourish outside classroom outside classroom requirements,knowledge and/or experiences are and/or exp		and pursuits flourish	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		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	Excellent Completes an assigned task independently and practices	5 pts Good Completes an assigned task without supervision or guidance	4 pts Satisfactory Requires minimal guidance to complete an assigned task	Requires deta or step-by-ste instructions t complete a ta		illed little inter ep complete o independ		rest to a task	1 pts Very Poor No interest to complete a task independently		6 pts
Student Outcome 7.3 Critical thinking in the broadest context of technological change	Excellent Synthesizes and integrates information from a variety of sources; formulates a clear and precise	5 pts Good Evaluate information from a variety of sources; formulates a clear and precise perspective.	Analyze information	Satisfactory Analyze information from a variety of sources; formulates a clear and precise		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		pts ery Poor sather formation rom a variety f 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 creative and adapt the ne knowledge tr solve a probl or address an issue	ldeas are creative in solving a problem, o	or	3 pts Unsatisfactor Shows some creative ways solve the prob		initiative and to attempt to		1 pts Very Poor Ideas are copied or restated from the sources consulted		6 pts