|  |  |
| --- | --- |
| **MIDTERM EXAM SKILL TEST** | |
| **Course Code: 201L** | **Program: COMPUTER ENGINEERING** |
| **Course Title:DATA STRUCTURE AND ALGORITHM** | **Date Performed: SEPTEMBER 06, 2025** |
| **Section: 2 - B** | **Date Submitted: SEPTEMBER 06, 2025** |
| **Name: KYLE ANDREY D. ENVERZO** | **Instructor:** |
| 1. **Objectives** | |
| * To implement an array of integers between 20 and 49 using a programming language. * To perform basic array operations such as displaying elements, counting elements, and determining the number of odd and even integers. | |
| **2. Discussion** | |
| An array is a collection of elements stored in contiguous memory locations and accessed using indexes. In this activity, I created an array of integers ranging from 20 to 49. Using array operations, I displayed each element with its corresponding index, counted the total number of elements, and determined how many were odd and even. This exercise strengthens understanding of array manipulation, looping structures, and basic counting logic. | |
| **3. Materials and Equipment** | |
| * **SET OF COMPUTER** * **GOOGLE COLAB** * **GITHUB** * **PYTHON LANGUAGE** | |
| **4. Procedure** | |
| * Declare an array of integers starting from 20 up to 49. * Display all the elements of the array together with their indexes using a loop. * Count the total number of elements using the len() function. * Use conditional statements to separate and count the odd and even integers. * Print the results for elements, element count, odd count, and even count. | |
| **5. Output** | |
|  | |
| **6. Conclusion** | |
| In conclusion, this activity successfully demonstrated the implementation and manipulation of an array of integers ranging from 20 to 49. By displaying the elements with their indexes, I was able to clearly understand how arrays store values in sequential memory locations and how each element can be accessed using its corresponding index.  Counting the number of elements validated that the array contained exactly 30 integers, which matches the expected range from 20 up to 49. Additionally, the classification of the elements into odd and even numbers showed that arrays can be efficiently combined with logical conditions and looping structures to process and analyze data. The results revealed an equal distribution of 15 odd numbers and 15 even numbers, which further reinforces mathematical patterns that can be verified using programming. | |
|  | |