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| **MIDTERM EXAM SKILL TEST** | |
| **Course Code: DSA 201L** | **Program: BSCPE** |
| **Course Title: Data Structure And Algorithm** | **Date Performed: SEP 6, 2025** |
| **Section: BSCPE-2B** | **Date Submitted: SEP 6, 2025** |
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| 1. **Objectives** | |
| Implement on Array of integers less than 50 but not less than 20 and do the following operations: -To display the elements -To count the number of elements -To count the number of odd and even integers | |
| **2. Discussion** | |
| In this activity, I implemented an array that stores integers from 20 up to 49. An array is a data structure that holds multiple elements of the same type in consecutive memory locations, and this allows me to access values easily through their index. I used a loop to fill the array with the required numbers and then displayed its contents.  To count the number of elements, I applied a simple counting approach. I can either use the built-in function len() in Python or go through the array manually and increase a counter for each element. This shows me that counting is simply a process of accumulation while traversing the data.  I also needed to determine how many numbers were odd and how many were even. To do this, I used the modulo operator %. If a number divided by 2 has a remainder of zero, then it is even; otherwise, it is odd.  Overall, this activity allowed me to practice important concepts such as arrays, iteration, counting, and classification of values. It also showed me how I can break down a problem into smaller steps: first constructing the array, then displaying the values, next counting them, and finally analyzing their properties. These are fundamental skills that help me prepare for more complex problems in programming and data structures. | |
| **3. Materials and Equipment** | |
| * **COMPUTER** * **PYTHON** * **GOOGLE COLAB** * **GITHUB** | |
| **4. Procedure** | |
| In this activity, I created an array containing integers from 20 up to 50 using range(20, 50) function in Python. Then displayed the elements of the array to show contents. After that, I counted the total number of elements by using the len() funtion. Lastly , I determined how many of the elements were even and how many were odd by applying the modulo operator inside list comprehensions, which allowed me to separate the numbers into their respective categories and display the results. | |
| **5. Output** | |
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| **6. Conclusion** From this midterm skill test, I realize how hard and simple this operations with arrays can teach me important problem-solving skills. By creating an array of numbers, displaying its contents, counting the elements, and separating them into odd and even, I was able to practice how to analyze data step by step. This also showed me how useful arrays are in organizing and processing information efficiently. More than just coding, the exercise helped me understand that breaking down a problem into smaller parts makes it easier to solve, and it gave me more confidence in working with basic programming concept that I can apply to bigger challenges in the future. | |
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