|  | **Pimpri Chinchwad Education Trust’s**  **Pimpri Chinchwad College of Engineering** |
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**Practical Assignment**

| **Department: MCA Semester:** I | **Academic Year:** 2024-2025 **Year and Div.: FYMCA** | | **Maximum Marks:** |
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| **Subject: Java Programming Lab** | | **Subject Teacher: Prof. Rajkamal Sangole**  **Name & sign** | |
| **Assignment No: 2** | **Date:** | | **Date of Submission:** |

1. Write a Java program to initialize an array with 10 integers and display all the elements.
2. Write a Java program to calculate the sum of all elements in an integer array.
3. Write a Java program to find the largest element in an array of integers.
4. Write a Java program to find the smallest element in an array of integers.
5. Write a Java program to count the number of even and odd numbers in an integer array.
6. Write a Java program to reverse the elements of an array without using a second array.
7. Write a Java program to find all duplicate elements in an integer array.
8. Write a Java program to remove duplicate elements from an integer array and display the new array.
9. Write a Java program to sort an integer array using the bubble sort algorithm.
10. Write a Java program to merge two arrays into a single array.

**Practice Programs:**

1. Write a Java program to search for an element in an array using the linear search technique.
2. Write a Java program to search for an element in a sorted array using the binary search algorithm.
3. Write a Java program to rotate the elements of an array to the left by a given number of positions.
4. Write a Java program to rotate the elements of an array to the right by a given number of positions.
5. Write a Java program to add two matrices and store the result in a new matrix.
6. Write a Java program to find the transpose of a given matrix.
7. Write a Java program to check if two arrays are equal, meaning they contain the same elements in the same order.
8. Write a Java program to find the second largest element in an integer array.
9. Write a Java program to count the frequency of each element in an array.
10. Write a Java program to find all pairs of elements in an array whose sum is equal to a specified number.