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package Arrays;
//Challenge: Find the largest and smallest element in an array
public class Challenge1 {
    public static void main(String[] args) {
        int[] arr = {4,6,2,9,1,3,8};
        int smallest = arr[0];
        int largest = arr[0];
        for (int i=0; i<arr.length; i++) {
            if (arr[i] < smallest) smallest = arr[i];
            if (arr[i] > largest) largest = arr[i];
        }
        System.out.println("Smallest element in the array is: " + smallest);
        System.out.println("Largest element in the array is: " + largest);
    }
}

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package Arrays;
import java.util.Arrays;
//Challenge: Sort an array in ascending order.
public class Challenge2 {
    public static void main(String[] args) {
        int[] arr = {4,6,2,9,1,3,8};
        int[] sortedArray = Arrays.copyOf(arr, arr.length);
        Arrays.sort(sortedArray);
        System.out.println("Original array: " + Arrays.toString(arr));
        System.out.println("Sorted array: " + Arrays.toString(sortedArray));
    }
}

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package Arrays;
//Challenge: Calculate average of numbers in an array.
public class Challenge3 {
    public static void main(String[] args) {
        int[] arr = {4,6,5,7,2};
        float sum=0;
        for(int i=0; i<arr.length; i++) {
            sum+=arr[i];
        }
        System.out.println("Average of numbers in an array: "+ (sum/arr.length));
    }
}

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package Arrays;
import java.util.Arrays;

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import java.util.Scanner;
//Challenge: Count occurrence of an element.
public class Challenge4 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int[] arr = {4,6,5,7,2,2,6,3,3,7,4,1,3,1,1};
        System.out.println("Array is: " + Arrays.toString(arr));
        System.out.print("Enter a number to get its occurrence: ");
        int n = sc.nextInt();
        int count=0;
        for(int i=0; i<arr.length; i++) {
            if(arr[i]==n) {
                count++;
            }
        }
        System.out.println("Occurrence of " + n + " is : " + count);
        sc.close();
    }
}

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package Arrays;
import java.util.Arrays;
//Challenge: Reverse elements of an array.
public class Challenge5 {
    public static void main(String[] args) {
        int[] arr = {1,2,3,4,5,6};
        System.out.println("Original Array: " + Arrays.toString(arr));
        System.out.print("Reversed array: ");
        for (int i = arr.length - 1; i >= 0; i--) {
            if(i == arr.length - 1) {
                System.out.print("[");
            }
            for(i = arr.length - 1; i > 0; i--) {
                System.out.print(arr[i] + ", ");
            }
            if(i == 0) {
                System.out.print(arr[i] + "]");
            }
        }
    }
}

```