Java Array and String Programs (Easy Placement Guide)

1. Reverse an Array

Reverse the elements of an array.

Code:

```
public class ReverseArray {
    public static void main(String[] args) {
        int[] arr = {1, 2, 3, 4, 5};
        for (int i = arr.length - 1; i >= 0; i--) {
            System.out.print(arr[i] + " ");
        }
    }
}
```

2. Find Largest Element in Array

Find the maximum value in an array.

Code:

```
public class MaxInArray {
    public static void main(String[] args) {
        int[] arr = {10, 20, 5, 30};
        int max = arr[0];
        for (int i = 1; i < arr.length; i++) {
            if (arr[i] > max) max = arr[i];
        }
        System.out.println("Max: " + max);
    }
}
```

3. Sum of Array Elements

Calculate the sum of all elements in an array.

Code:

```
public class SumArray {
    public static void main(String[] args) {
        int[] arr = {10, 20, 30};
        int sum = 0;
        for (int i = 0; i < arr.length; i++) {
            sum += arr[i];
```

```
        }
        System.out.println("Sum: " + sum);
    }
}
```

4. Count Even and Odd Elements in Array

Count how many even and odd numbers in an array.

Code:

```
public class EvenOddCount {
    public static void main(String[] args) {
        int[] arr = {1, 2, 3, 4, 5, 6};
        int even = 0, odd = 0;
        for (int n : arr) {
            if (n % 2 == 0) even++;
            else odd++;
        }
        System.out.println("Even: " + even + ", Odd: " + odd);
    }
}
```

5. Sort Array in Ascending Order

Sort the elements using simple bubble sort.

Code:

```
public class SortArray {
    public static void main(String[] args) {
        int[] arr = {5, 3, 2, 4, 1};
        for (int i = 0; i < arr.length - 1; i++) {
            for (int j = 0; j < arr.length - i - 1; j++) {
                if (arr[j] > arr[j + 1]) {
                    int temp = arr[j];
                    arr[j] = arr[j + 1];
                    arr[j + 1] = temp;
                }
            }
        }
        for (int n : arr) System.out.print(n + " ");
    }
}
```

6. Find Duplicate Elements in Array

Print duplicate values in an array.

Code:

```
public class DuplicateElements {
    public static void main(String[] args) {
        int[] arr = {1, 2, 3, 2, 4, 1};
        for (int i = 0; i < arr.length; i++) {
            for (int j = i + 1; j < arr.length; j++) {
                if (arr[i] == arr[j]) {
                    System.out.println("Duplicate: " + arr[i]);
                }
            }
        }
    }
}
```

7. Reverse a String

Reverse a given string.

Code:

```
public class ReverseString {
    public static void main(String[] args) {
        String s = "hello";
        String rev = "";
        for (int i = s.length() - 1; i >= 0; i--) {
            rev += s.charAt(i);
        }
        System.out.println("Reverse: " + rev);
    }
}
```

8. Count Vowels and Consonants

Count number of vowels and consonants in a string.

Code:

```
public class VowelConsonant {
    public static void main(String[] args) {
        String s = "hello";
        int v = 0, c = 0;
        s = s.toLowerCase();
        for (int i = 0; i < s.length(); i++) {
            char ch = s.charAt(i);
            if ("aeiou".indexOf(ch) != -1) v++;
```

```
            else if (ch >= 'a' && ch <= 'z') c++;
        }
        System.out.println("Vowels: " + v + ", Consonants: " + c);
    }
}
```

9. Check Palindrome String

Check if a string is a palindrome.

Code:

```
public class PalindromeString {
    public static void main(String[] args) {
        String s = "madam", rev = "";
        for (int i = s.length() - 1; i >= 0; i--) {
            rev += s.charAt(i);
        }
        if (s.equals(rev)) System.out.println("Palindrome");
        else System.out.println("Not Palindrome");
    }
}
```

10. Find Frequency of Characters

Count the occurrence of each character.

Code:

```
public class CharFrequency {
    public static void main(String[] args) {
        String s = "hello";
        int[] freq = new int[256];
        for (int i = 0; i < s.length(); i++) {
            freq[s.charAt(i)]++;
        }
        for (int i = 0; i < freq.length; i++) {
            if (freq[i] > 0)
                System.out.println((char)i + ": " + freq[i]);
        }
    }
}
```