**Problem 1: Calculating the Sum of an Array**

**Problem Statement:**

Write an algorithm that calculates the sum of all numbers in a given array of integers.

**1. Pseudocode:**

**Start Create variable sum and set it to 0 For each number in the array** **Add number to sum End For Display the value of variable sum to user End**

**2. Translate to C#**

// Initialize an array of integers

**int**[] numbers = { **5**, **8**, **3**, **4**, **2** };

// Initialize the sum variable

**int** sum = **0**;

// Loop through each number in the array

**foreach** (**int** number **in** numbers)

{

sum += number;

}

// Output the sum of the array

Console.WriteLine("The sum of the array is: " + sum);

**Problem 2: Counting the Number of Vowels in a String**

**Problem Statement:**

Write an algorithm to count the number of vowels (a, e, i, o, u) in a given string.

**1. Pseudocode:**

**Start Create variable vowelCount and set to 0 For each character in the string If character is a vowel Add 1 to vowelCount End For Print vowelCount End**

**2. Translate to C#**

**int** vowelCount1 = **0**;

**char**[] letters = ['h', 'e', 'l', 'l', 'o'];

**char**[] vowels = ['a', 'e', 'i', 'o', 'u'];

**foreach** (**char** letter **in** letters)

{

**if** (vowels.Contains(**char**.ToLower(letter)))

{

vowelCount1 += **1**;

}

}

Console.WriteLine(vowelCount1);