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**Foundation Course – Assignment 2**

*Deadline: 10 July 2024*

1. Write a program to delete the duplicates from an array.

**Example:** If A = {2,2,5,8,5,9,3} then output should be A = {2,5,8,9,3}

1. Write a program to find the largest and the second largest number in an array.
2. Write a program that places all the zeros in an array at the end of the list.
3. Write a program to find the first non-repeating character in a string. (**Medium**)

**Example:** If the string is "Swiss", then the output should be 'w'.

1. Write a program to merge two sorted arrays into a single sorted array.

**Example:** If A = [1, 3, 5, 7] and B = [2, 4, 6, 8], then the output should be [1, 2, 3, 4, 5, 6, 7, 8].

1. Write a program to find the missing number in an array containing n distinct numbers taken from 0, 1, 2, ..., n.

**Example:** If A = [3, 0, 1,4], then the output should be 2.

1. Write a program to check whether a number is Armstrong number or not.

Hint: Armstrong number is a number that is equal to the sum of cubes of its digits.

**Example:** If A= 153, it's an Armstrong number because 1^3 + 5^3 + 3^3 = 153.

1. Write a program to find the longest common prefix in an array of strings.

**Example:** If the input is ["interstellar", "internet", "intermediate"], the output should be "inter".

1. Write a program that prints the Fibonacci sequence up to n terms (where n is user input).
2. Write a program that reads ***N*** integers, determines how many positive and negative values have been read and computes the total and average of input values.

**Sample Output:**

Enter N: 4

Enter 4 values: 1 2 -1 3

The number of positive numbers: 3

The number of negative numbers: 1

Total is: 5

Average is: 1.25

**Evaluation Criteria:**

* **Correctness:** Does the program solve the problem as described? Does it handle edge cases properly?
* **Code Quality:** Is the code well-structured and readable? Are variables and functions named appropriately?
* **Efficiency:** Is the code unnecessarily complex or slow? Are there simpler or faster ways to solve the problem?
* **Comments:** Are there comments explaining complex pieces of code? Is the purpose of each function and variable explained?