**Semester Project Report**

**Counting Duplicate Entries in an Array**

**Class:**

CS-1A

**Team members:**

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**Report Task:** Create a program that counts duplicate array entries and show value and number of duplicated

**Introduction:**

This project report explains the development of a C++ program that search and counts the duplicate entries in an array. The program goes through the array in a sequence, counting the number of times each entry appears, and displaying the entries with duplicates and their counts. This functionality is very essential and is used in a variety of applications, including data analysis, statistics, and inventory management systems, where knowing the frequency of items is required.

**Objectives:**

* Making a C++ program to count duplicate entries in an array.
* Ensure the program swiftly processes the array and accurately counts repetitions.
* Provide unambiguous findings with elements and counts.

**Tools and Language:**

* **Programming Language**: C++
* **Development Tool**: Microsoft Visual Studio

**Process:**

The processing involves the following steps:

1. Ask the user to add up the values in an array with sufficient elements upto 100.
2. Determine the size of the array.
3. Create a visited array to monitor processed elements.
4. Iterate through the array and count how many times each element appears.
5. Print elements with duplicates and their counts.

**Conclusion:**

In conclusion of this project, we were successful in creating a C++ program that detects and counts duplicate entries in an array. The program basically goes through the array in correct sequence, using a boolean array to check visited entries and counting their occurrences. This method confirms that each entry is only handled only once, giving a precise and efficient duplicate counting. It presents a simple yet reliable technique to detecting duplicate entries in arrays, evaluating the actual use of basic data structures and algorithms in C++. The tools and methodologies used in this project gives the foundation for more technical and advanced data processing and analysis activities.

**Presented To:**

Sir Sohail Muhammad