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DEPARTMENT OF COMPUTER SCIENCE

Computer Programming 2 (CS121)

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Lab Exercise 07

Problem 1

(*Occurrences of each digit in a string*) Write a function that counts the occurrences of each digit in a string using the following header:

```
int* count(const string& s)
```

The function counts how many times a digit appears in the string. The return value is an array of ten elements, each of which holds the count for a digit. For example, after executing `int* counts = count("12203AB3")`, `counts[0]` is `1`, `counts[1]` is `1`, `counts[2]` is `2`, `counts[3]` is `2`.

Write a `main` function to display the count for `"SSN is 343 32 4545 and ID is 434 34 4323"`.

Redesign the function to pass the `counts` array in a parameter as follows:

```
void count(const string& s, int counts[], int size)
```

where `size` is the size of the `counts` array. In this case, it is `10`.

Lab Exercise 07

Problem 2

(*Remove duplicates*) Write a function that removes the duplicate elements from a vector using the following header:

```
template<typename T>
void removeDuplicate(vector<T>& v)
```

Write a test program that prompts the user to enter 10 integers to a vector and displays the distinct integers. Here is a sample run:

```
Enter ten integers: 34 5 3 5 6 4 33 2 2 4 ↵ Enter
The distinct integers are 34 5 3 6 4 33 2
```

</End>


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