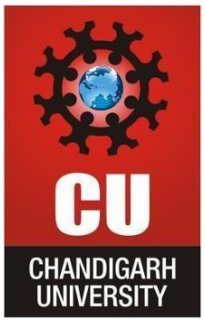
CHANDIGARH UNIVERSITY
UNIVERSITY INSTITUTE OF ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



Submitted By: Shubham Shrivastava	**Submitted To: Lisha yugal**
Subject Name	Design and Analysis of Algorithms
Subject Code	20CSP-311
Branch	CSE
Semester	5

LAB INDEX

NAME: Shubham Shrivastava
UID: 20BCS5472
SECTION: 20BCS WM_618-B

SUBJECT NAME: Design and Analysis of Algorithms
SUBJECT CODE: 20CSP-311

Sr.No	Program	Date	Evaluation				Sign
			LW (12)	VV (8)	FW (10)	Total (30)	

EXPERIMENT 3

Name: Shubham Shrivastava

UID: 20BCS5472

Semester: 5th

Section-Group: 618-B

Subject: DAA LAB

AIM: Counting frequencies of array elements.

Theory:

Algorithm to find the frequency of each element of an array

- Input the number of elements of an array.
- Input the array elements.
- Create another array to store the frequency of elements.
- Traverse the input array and update the count of the elements in the frequency array.
- Print the frequency array which displays the frequency of all the elements of the array.

Algorithm:

- Input the number of elements of an array.
- Input the array elements.
- Create another array to store the frequency of elements.
- Traverse the input array and update the count of the elements in the frequency array.
- Print the frequency array which displays the frequency of all the elements of the array.

Examples:

Input: arr[] = {10, 20, 20, 10, 20, 5, 20}

Output: 10 3 20 4 5 1

Input: arr[] = {10, 20, 20}

Output: 10 1 20 2

A simple solution is to run two loops. For every item count the number of times it occurs. To avoid duplicate printing, keep track of processed items.

CODE:

```
#include <bits/stdc++.h>
usingnamespace std;
void countFreq(int arr[], int n)
{
vector<bool> visited(n,
false);
for (int i = 0; i < n; i++)
{
if (visited[i] == true) continue;
int count = 1; for (int j = i
+1; j < n; j++) { if (arr[i]
== arr[j])
{
visited[j] = true; count++;
}
}
cout << arr[i] << " " << count <<
endl;
}
```

```
}
int main() { int arr[] = { 10, 20, 10, 30,
50, 20, 10}; int n = sizeof(arr)
/sizeof(arr[0]); countFreq(arr, n);
return0;
}
```

OUTPUT: