Experiment 3

Student Name: Rohan Chauhan **UID: 20BCS3311**
Branch: B.E. CSE **Section/Group: 20BCS-WM_701/B**
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Subject Code: 20CSP-312

1. **Aim/Overview of the practical:**

   Counting frequencies of array elements.

2. **Task to be done/ Which logistics used:**

   Given an array which may contain duplicates, print all elements and their frequencies.

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

   Output : 10 3

   20 4

   5 1

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

   Output : 10 1

   20 2

3. Steps for experiment/practical/Code:

```
#include <bits/stdc++.h>
using namespace std;
int frequency(int arr[], int size) {
  bool check[size];
  for(int i=0;i<size;i++) {
    check[i] = 0;
  }
  for(int i=0; i<size; i++) {
    if(check[i]== 1) {
      continue;
    }
    int count = 1;
    for(int j = i+1; j<size; j++) {
      if (arr[i] == arr[j]) {
        check[j] = 1;
        count++;
      }
    }
    cout<<"Frequency of "<<arr[i]<<" is: " << count << endl;
  }
}
int main() {
  int arr[] = {10, 20, 20, 10, 10, 20, 5, 20};
  int size = sizeof(arr) / sizeof(arr[0]);
  frequency(arr, size);
  return 0;
}
```

4. Observations/Discussions/ Complexity Analysis: