**Lab Assignment- Hashing**

**Week-8 Lab A**

1. The keys 14, 18, 24, 20, 3, 23, 33 and 15 are inserted into an initially empty hash table of length 10 using open addressing with hash function h(k) = k mod 9 and linear probing. WAP to implement the above statement.
2. Given a simple hash function as “key mod 7” and sequence of keys as 50, 700, 76, 85, 92, 73, 101, 70. Write a program to resolve the collision (if any) with linear probing in open addressing hashing.
3. Write a program to implement the concept of hashing using a chaining method. Take the inputs from the user and decide the maximum size for the buckets at run time.

The hash function can be used as **HashKey=Key%number of buckets**.

1. Implement Q1,Q2 using quadratic probing.
2. Implement chain hashing to avoid collision in Q1, Q2.
3. Consider two hash functions

hash1(x)=key mod 7

and

hash2(x)= key mod 3

Keys are given as 50, 700, 76, 85, 92, 73, 101, 70. W.A.P to apply double hashing to resolve the collision if any.

1. Given an array **arr[]** of **N** integers representing the heights of the sticks. The task is to find the area of the largest square that can be formed using these sticks and the count of such squares. **Note** that a single side of the square can only use a single stick.

**Examples:**

***Input:*** *arr[] = {5, 3, 2, 3, 6, 3, 3}*

***Output:***

*Area = 9*

*Count = 1*

1. The task is to implement all functions of phone directory:**create\_record**

**display\_record**

**delete\_record**

**search\_record**

**update\_record**

Following data will be taken from the client:

ID, Name, Telephone number