**Program 10:** **Given a File of N employee records with a set K of Keys (4-digit) which uniquely determine the records in file F. Assume that file F is maintained in memory by a Hash Table (HT) of m memory locations with L as the set of memory addresses (2-digit) of locations in HT. Let the keys in K and addresses in L are Integers. Design and develop a Program in C that uses Hash function H: K →L as H (K) =K mod m, and implement hashing technique to map a given key K to the address space L. Resolve the collision if any using linear probing.**

**#include<math.h>**

**void main()**

**{**

**int n , m , a[100], loc, i, key, newloc;**

**clrscr();**

**printf(" Enter the number( < 05) of elements to store \n");**

**scanf("%d", &n);**

Enter the number ( < 05) of elements to store

5

Enter the m value, h(k) = k mod m

11

Enter the key value to be stored

34

Enter the key value to be stored

36

Enter the key value to be stored

79

Enter the key value to be stored

81

Enter the key value to be stored

56

The keys in Hashed location are

a[0] === >> -999

a[1] === >> 34

a[2] === >> 79

a[3] === >> 36

a[4] === >> 81

a[5] === >> 56

a[6] === >> -999

a[7] === >> -999

a[8] === >> -999

a[9] === >> -999

a[10] === >> -999

**printf(" Enter the m value, h(k) = k mod m \n");**

**scanf("%d", &m);**

**for(i=0; i<=10; i++)**

**a[i] = -999;**

**for(i=1; i<=n; i++)**

**{**

**printf(" Enter the key value to be stored \n");**

**scanf("%d", &key);**

**loc = key % m;**

**if(a[loc] == -999)**

**a[loc] = key;**

**else**

**{**

**newloc = loc+1;**

**while(a[newloc] != -999 && newloc<=10)**

**newloc= newloc+1;**

**a[newloc] = key;**

**}**

**}**

**printf(" The keys in Hashed location are \n");**

**for(i=0; i<=10; i++)**

**printf("a[%d] === >> %d\n", i, a[i]);**

**}**