Exp (5): Write a C program to implement hashing using Linear probing method.

Aim: TO write a C program to implement hashing using Linear probing method.

Algorithm:

*. start.
*. Initialize hash table.
*. Input elements to insert.
*. compute hash index.
*. If collision, use linear probing to find next empty slot.
*. Insert element.
*. display hash table.
*. stop.

program:

```
#include <stdio.h>
# define SIZE 10
int hash table [SIZE];
void insert(int key) {
    int index = key % SIZE;
    while (hashTable[index] != -1)
        index = (index + 1) % SIZE;
    hashtable [index] = key;
}
void display() {
    for (int i = 0; i < SIZE; i++)
        printf("%d -> %d\n", i, hashTable [i]);
}
int main() {
    for (int i = 0; i < SIZE; i++) hashtable[i] = -1;
    insert (23);
    insert (43);
    insert (13);
    insert (27);
    display ();
} return 0;
```

output:

0 → -1
1 → -1
2 → -1
3 → 23
4 → 43
5 → 13
6 → -1
7 → 27
8 → -1
9 → -1

Result: Thus, the program executed successfully