

## LAB(23-12-2025)

INPUT:

```
C:\Users\BMSECECE> Desktop > 1BF24CS243 > LAB(23-12-2025) > C code.c > ...
1 #include <stdio.h>
2
3 #define MAX 20
4
5 int hashTable[MAX];
6 int m;
7
8 /* Function to insert key using Linear Probing */
9 void insert(int key)
10 {
11     int index = key % m;
12
13     if (hashTable[index] == -1)
14     {
15         hashTable[index] = key;
16     }
17     else
18     {
19         int i = 1;
20         while (hashTable[(index + i) % m] != -1)
21         {
22             i++;
23         }
24         hashTable[(index + i) % m] = key;
25     }
26 }
27
28 /* Function to display hash table */
29 void display()
30 {
31     printf("\nHash Table:\n");
32     for (int i = 0; i < m; i++)
33     {
34         if (hashTable[i] != -1)
35             printf("Address %d : %d\n", i, hashTable[i]);
36         else
37             printf("Address %d : Empty\n", i);
38     }
39 }
40
41 int main()
42 {
43     int n, key;
44
45     printf("Enter size of hash table (m): ");
46     scanf("%d", &m);
47
48     printf("Enter number of employee records: ");

```

```
C:\Users\BMSECECE> Desktop > 1BF24CS243 > LAB(23-12-2025) > C code.c > ...
1 /* Function to display hash table */
2 void display()
3 {
4     printf("\nHash Table:\n");
5     for (int i = 0; i < m; i++)
6     {
7         if (hashTable[i] != -1)
8             printf("Address %d : %d\n", i, hashTable[i]);
9         else
10            printf("Address %d : Empty\n", i);
11    }
12 }
13
14 int main()
15 {
16     int n, key;
17
18     printf("Enter size of hash table (m): ");
19     scanf("%d", &m);
20
21     printf("Enter number of employee records: ");
22     scanf("%d", &n);
23
24     /* Initialize hash table */
25     for (int i = 0; i < m; i++)
26         hashTable[i] = -1;
27
28     printf("Enter %d employee keys (4-digit):\n", n);
29     for (int i = 0; i < n; i++)
30     {
31         scanf("%d", &key);
32         insert(key);
33     }
34
35     display();
36
37     return 0;
38 }
```

## OUTPUT:

The screenshot shows a Visual Studio Code interface with a terminal window open. The terminal displays the following output:

```
C:\Users\BMSCECSE> cd C:\Users\BMSCECSE\Desktop\1BF24CS243\LAB(23-12-2025)> C code.c ...
9 void insert(int key)
26 }
27 /* Function to display hash table */
28 void display()
29 {
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
File C:\Users\BMSCECSE\code.c (C:\Users\BMSCECSE\Desktop\1BF24CS243\LAB(23-12-2025)\code.c) 1f (1) { gcc code.c -o code } ; if ($?) ( ./code )
Enter size of hash table (n): 10
Enter number of employee records: 5
Enter 5 employee keys (4-digit):
1234
2345
3456
1244
2355
Hash Table:
Address 0 : Empty
Address 1 : Empty
Address 2 : Empty
Address 3 : Empty
Address 4 : 1234
Address 5 : 2345
Address 6 : 3456
Address 7 : 1244
Address 8 : 2355
Address 9 : Empty
Ps C:\Users\BMSCECSE\Desktop\1BF24CS243\LAB(23-12-2025)> []
```