

LAB_10

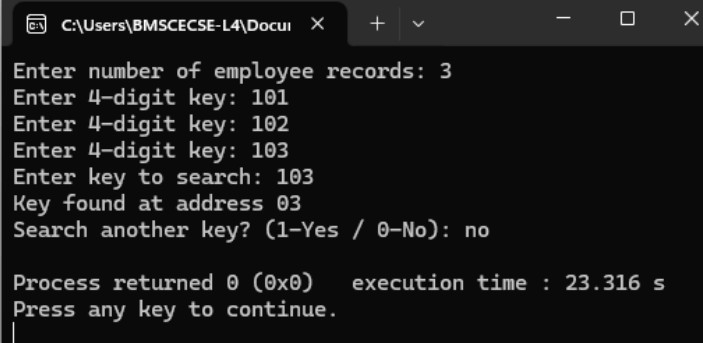
```
1  #include <stdio.h>
2  #define M 100
3
4  typedef struct {
5      int key;
6      int used;
7  } Record;
8
9  int hash(int k) {
10     return k % M;
11 }
12 void insert(Record ht[], int k) {
13     int i = hash(k);
14     int start = i;
15
16     while (ht[i].used) {
17         i = (i + 1) % M;
18         if (i == start)
19             return;
20     }
21
22     ht[i].key = k;
23     ht[i].used = 1;
24 }
25 int search(Record ht[], int k) {
26     int i = hash(k);
27     int start = i;
28
29     while (ht[i].used) {
30         if (ht[i].key == k)
31             return i;
32
33         i = (i + 1) % M;
34         if (i == start)
35             break;
36     }
37
38     return -1;
39 }
40 int main() {
41     Record ht[M];
42     int n, k, i, pos, choice;
43
44     for (i = 0; i < M; i++)
45         ht[i].used = 0;
```

```

46
47     printf("Enter number of employee records: ");
48     scanf("%d", &n);
49
50     for (i = 0; i < n; i++) {
51         printf("Enter 4-digit key: ");
52         scanf("%d", &k);
53         insert(ht, k);
54     }
55     do {
56         printf("Enter key to search: ");
57         scanf("%d", &k);
58
59         pos = search(ht, k);
60
61         if (pos == -1)
62             printf("Key not found\n");
63         else
64             printf("Key found at address %02d\n", pos);
65
66         printf("Search another key? (1-Yes / 0-No): ");
67         scanf("%d", &choice);
68
69     } while (choice == 1);
70     return 0;
71 }

```

OUTPUT:



```

C:\Users\BMSCECSE-L4\Docu...
Enter number of employee records: 3
Enter 4-digit key: 101
Enter 4-digit key: 102
Enter 4-digit key: 103
Enter key to search: 103
Key found at address 03
Search another key? (1-Yes / 0-No): no

Process returned 0 (0x0)   execution time : 23.316 s
Press any key to continue.

```

