

Experiment 15

Code

```
#include <stdio.h>

#define SIZE 10

int hashTable[SIZE];

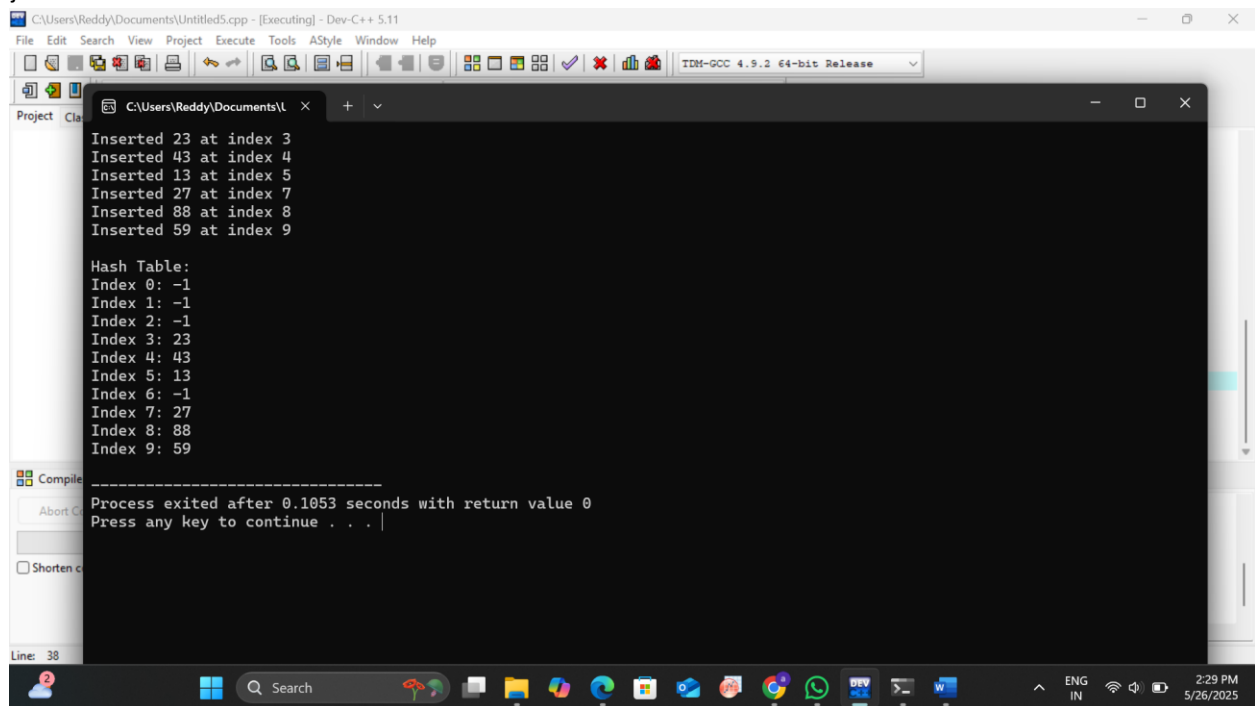
void init() {
    for (int i = 0; i < SIZE; i++)
        hashTable[i] = -1;
}

int hash(int key) {
    return key % SIZE;
}

void insert(int key) {
    int index = hash(key);
    int i = 0;
    while (hashTable[(index + i) % SIZE] != -1) {
        i++;
        if (i == SIZE) {
            printf("Hash table is full!\n");
            return;
        }
    }
    hashTable[(index + i) % SIZE] = key;
    printf("Inserted %d at index %d\n", key, (index + i) % SIZE);
}

void display() {
    printf("\nHash Table:\n");
    for (int i = 0; i < SIZE; i++)
        printf("Index %d: %d\n", i, hashTable[i]);
}
```

```
}  
  
int main() {  
    int keys[] = {23, 43, 13, 27, 88, 59};  
    int n = sizeof(keys) / sizeof(keys[0]);  
    init();  
    for (int i = 0; i < n; i++)  
        insert(keys[i]);  
    display();  
    return 0;  
}
```



The screenshot shows a Dev-C++ IDE window titled "C:\Users\Reddy\Documents\Untitled5.cpp - [Executing] - Dev-C++ 5.11". The console output is as follows:

```
Inserted 23 at index 3  
Inserted 43 at index 4  
Inserted 13 at index 5  
Inserted 27 at index 7  
Inserted 88 at index 8  
Inserted 59 at index 9  
  
Hash Table:  
Index 0: -1  
Index 1: -1  
Index 2: -1  
Index 3: 23  
Index 4: 43  
Index 5: 13  
Index 6: -1  
Index 7: 27  
Index 8: 88  
Index 9: 59  
  
-----  
Process exited after 0.1053 seconds with return value 0  
Press any key to continue . . . |
```

The IDE interface includes a menu bar (File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, Help), a toolbar, and a status bar at the bottom showing "Line: 38". The Windows taskbar at the bottom of the screen displays the time as 2:29 PM on 5/26/2025.

