

```

1: #include<stdio.h>
2: #include<stdlib.h>
3:
4: int keys[20], hashIndex, numKeys, tableSize, *hashTable, elementCount = 0;
5: int i;
6:
7:
8: void creatHashTable() {
9:     hashTable = (int*)malloc(tableSize * sizeof(int));
10:    if (hashTable == NULL) {
11:        printf("MEMORY UNAVAILABLE:\n");
12:    } else {
13:        for (i = 0; i < tableSize; i++) {
14:            hashTable[i] = -1;
15:        }
16:    }
17: }
18:
19:
20: void insertIntoHashTable(int key) {
21:     hashIndex = key % tableSize;
22:
23:     while (hashTable[hashIndex] != -1) {
24:         hashIndex = (hashIndex + 1) % tableSize;
25:     }
26:     hashTable[hashIndex] = key;
27:     elementCount++;
28: }
29:
30:
31: void displayHashTable() {
32:     int i;
33:     if (elementCount == 0) {
34:         printf("HASH TABLE EMPTY\n");
35:     }
36:     for (i = 0; i < tableSize; i++) {
37:         printf("T[%d]--> %d\n", i, hashTable[i]);
38:     }
39: }
40:
41:
42: int main (){
43:     int i;
44:     printf("Enter the number of keys: ");
45:     scanf("%d", &numKeys);
46:     printf("Enter the hash table size: ");
47:     scanf("%d", &tableSize);
48:     printf("Enter the keys: \n");
49:     for(i = 0; i < numKeys; i++) {
50:         scanf("%d", &keys[i]);
51:     }
52:
53:     creatHashTable();
54:
55:     printf("Inserting keys into the hash table:\n");
56:     for(i = 0; i < numKeys; i++) {
57:         if (elementCount == tableSize) {
58:             printf("HASH TABLE FULL\n");
59:             printf("Can't insert the key %d\n", keys[i]);
60:             break;
61:         }
62:         insertIntoHashTable(keys[i]);
63:     }
64:
65:     displayHashTable();
66:
67:     return 0;
68: }
```