**#include <stdio.h>**

**#define TABLE\_SIZE 7**

**void insert\_into\_hash\_table(int hash\_table[], int key)**

**{**

**int hashkey;**

**hashkey=key%TABLE\_SIZE;**

**int i=0;**

**int isalreadypresent=0;**

**while(i<TABLE\_SIZE)**

**{**

**if(hash\_table[hashkey]==key)**

**{**

**isalreadypresent=1;**

**break;**

**}**

**if(hash\_table[hashkey]==-1)**

**{**

**hash\_table[hashkey]=key;**

**printf("The key %d is inserted in position %d of the hash table.\n", key, hashkey);**

**break;**

**}**

**else**

**{**

**hashkey=(hashkey+1)%TABLE\_SIZE;**

**i=i+1;**

**}**

**}**

**if(i==TABLE\_SIZE)**

**{**

**printf("The hash table is full.\n");**

**}**

**else if(isalreadypresent==1)**

**{**

**printf("The given element already exists in the table.");**

**}**

**}**

**void search\_the\_hash\_table(int hash\_table[], int key)**

**{**

**int hashkey;**

**hashkey=key%TABLE\_SIZE;**

**int i=0;**

**while(i<TABLE\_SIZE)**

**{**

**if(hash\_table[hashkey]==key)**

**{**

**printf("The key %d is found in position %d in the hash table.\n", key, hashkey);**

**break;**

**}**

**else**

**{**

**hashkey=(hashkey+1)%TABLE\_SIZE;**

**i=i+1;**

**}**

**}**

**if(i==TABLE\_SIZE)**

**{**

**printf("The element is not found.\n");**

**}**

**}**

**void main()**

**{**

**int hash\_table[TABLE\_SIZE];**

**int i;**

**for(i=0; i<TABLE\_SIZE; i++)**

**{**

**hash\_table[i]=-1;**

**}**

**while(1)**

**{**

**int key;**

**int choice;**

**printf("Enter 1 to enter a key into the hash table and 2 to search for a key in the hash table and 3 to exit. ");**

**scanf("%d", &choice);**

**if(choice==1)**

**{**

**printf("Enter a key to enter into the hash table ");**

**scanf("%d", &key);**

**insert\_into\_hash\_table(hash\_table, key);**

**}**

**else if(choice==2)**

**{**

**printf("Enter a key to search in the hash table ");**

**scanf("%d", &key);**

**search\_the\_hash\_table(hash\_table, key);**

**}**

**else if(choice==3)**

**{**

**break;**

**}**

**else**

**{**

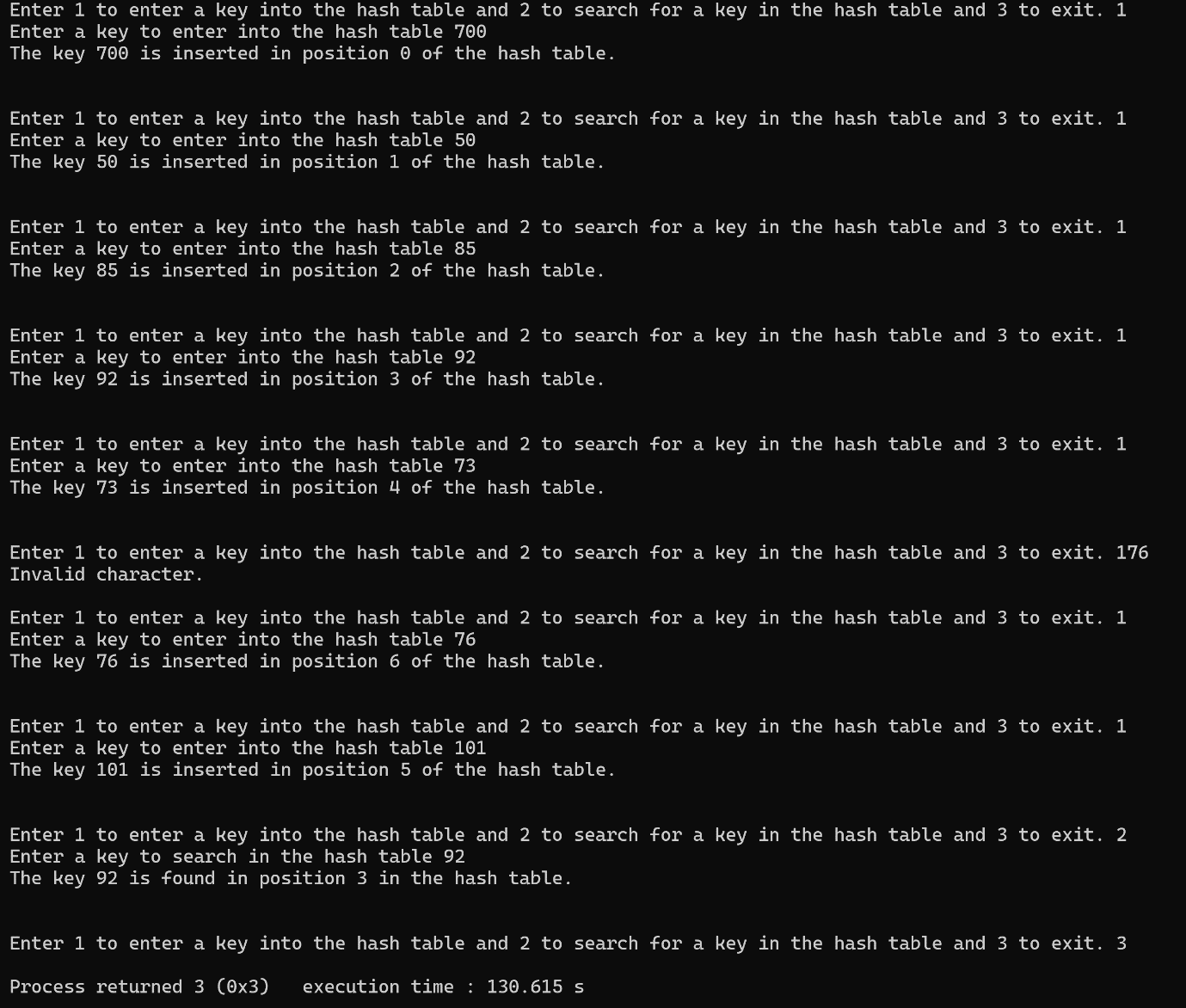
**printf("Invalid character.");**

**}**

**printf("\n\n");**

**}**

**}**

****