

```

#include <stdio.h>

#include<stdlib.h>

#define TABLE_SIZE 10

int h[TABLE_SIZE]={NULL};

void insert()
{

    int key,index,i,flag=0,hkey;

    printf("\nenter a value to insert into hash table\n");
    scanf("%d",&key);
    hkey=key%TABLE_SIZE;
    for(i=0;i<TABLE_SIZE;i++)
    {

        index=(hkey+i)%TABLE_SIZE;

        if(h[index] == NULL)
        {
            h[index]=key;
            break;
        }

    }

    if(i == TABLE_SIZE)

        printf("\nelement cannot be inserted\n");
}

void search()

```

```

{

int key,index,i,flag=0,hkey;
printf("\nEnter search element\n");
scanf("%d",&key);
hkey=key%TABLE_SIZE;
for(i=0;i<TABLE_SIZE; i++)
{
    index=(hkey+i)%TABLE_SIZE;
    if(h[index]==key)
    {
        printf("value is found at index %d",index);
        break;
    }
}
if(i == TABLE_SIZE)
    printf("\n value is not found\n");
}

void display()
{

    int i;

    printf("\nelements in the hash table are \n");

    for(i=0;i< TABLE_SIZE; i++)

        printf("\nat index %d \t value = %d",i,h[i]);

}

main()

```

```
{  
    int opt,i;  
    while(1)  
    {  
        printf("\nPress 1. Insert\t 2. Display \t3. Search \t4.Exit \n");  
        scanf("%d",&opt);  
        switch(opt)  
        {  
            case 1:  
                insert();  
                break;  
            case 2:  
                display();  
                break;  
            case 3:  
                search();  
                break;  
            case 4:exit(0);  
        }  
    }  
}
```

}

```
C:\Users\nagir\OneDrive\Documents\linear probing.exe
enter a value to insert into hash table
2

Press 1. Insert  2. Display  3. Search  4.Exit
2

elements in the hash table are

at index 0      value = 0
at index 1      value = 0
at index 2      value = 2
at index 3      value = 0
at index 4      value = 0
at index 5      value = 0
at index 6      value = 0
at index 7      value = 0
at index 8      value = 0
at index 9      value = 0
Press 1. Insert  2. Display  3. Search  4.Exit
3

enter search element
2
value is found at index 2
Press 1. Insert  2. Display  3. Search  4.Exit
4

-----
Process exited after 26.27 seconds with return value 0
```