

```
#include<bits/stdc++.h>
#define TABLE_SIZE 10
using namespace std;
struct node

{

    int data;

    struct node *next;

};

struct node *head[TABLE_SIZE]={NULL},*c;

void insert()

{

    int i,key;

    cout<<"Enter a value to insert into hash table: "<<endl;

    cin>>key;

    i=key%TABLE_SIZE;
```

```
struct node * newnode=(struct node *)malloc(sizeof(struct node));

newnode->data=key;

newnode->next = NULL;

if(head[i] == NULL)

head[i] = newnode;

else

{

c=head[i];

while(c->next != NULL)

{

c=c->next;

}

c->next=newnode;
```

```
}
```

```
}
```

```
void search()
```

```
{
```

```
    int key,index;
```

```
    cout<<"Enter the element to be searched: "<<endl;
```

```
    cin>>key;
```

```
    index=key%TABLE_SIZE;
```

```
    if(head[index] == NULL)
```

```
        cout<<"Search element not found!"<<endl;
```

```
    else
```

```
    {
```

```
        for(c=head[index];c!=NULL;c=c->next)
```

```
{

    if(c->data == key)

    {

        cout<<" Search element found!"<<endl;

        break;

    }

}

if(c==NULL)

    cout<<"Search element not found!"<<endl;

}
```

```
void del()

{

    int key,index;

    cout<<"Enter the element to be deleted: "<<endl;

    cin>>key;

    index=key%TABLE_SIZE;

    if(head[index] == NULL)

        cout<<"Delete element not found!"<<endl;

    else

    {

        for(c=head[index];c!=NULL;c=c->next)

        {
```

```
    if(c->data == key)

    {
        head[index-1] = c->next;
        cout<<" Element Deleted!"<<endl;

        break;

    }

}

if(c==NULL)

    cout<<"Delete element not found!"<<endl;

    }

}
```

```
void display()

{

    int i;

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

    {

        cout<<"\nEntries at index"<<i<<": "<<endl;

        if(head[i] == NULL)

        {

            cout<<"No Hash Entry!";

            //return;

        }

        else

        {
```

```
for(c=head[i];c!=NULL;c=c->next)
```

```
cout<<c->data<<"->";
```

```
}
```

```
}
```

```
}
```

```
int main()
```

```
{
```

```
int opt,key,i;
```

```
while(1)
```

```
{
```

```
cout<<"\n1.Insert\n2.Display\n3.Search\n4.Delete\n5.Exit\nEnter  
choice:"<<endl;
```

```
cin>>opt;
```



```
switch(opt)
```

```
{
```

```
    case 1:
```

```
        insert();
```

```
        break;
```

```
    case 2:
```

```
        display();
```

```
        break;
```

```
    case 3:
```

```
        search();
```

```
        break;
```

```
    case 4:
```

```
del();
```

```
break;
```

```
case 5:exit(0);
```

```
default:
```

```
cout<<"Enter Valid Choice!";
```

```
}
```

```
}
```

```
return 0;
```

```
}
```