

#Program Code:

```
#include <iostream>
#include <algorithm>
#include <vector>
using namespace std;
class Item
{
public:
char name[10];
int quantity;
int cost;
int code;
bool operator==(const Item& i1)
{
if(code==i1.code)
return 1;
return 0;
}
bool operator<(const Item& i1)
{
if(code<i1.code)
return 1;
return 0;
}
};
vector<Item> o1;
void print(Item &i1);
void display();
void insert();
void search();
void dlt();
bool compare(const Item &i1, const Item &i2)
{

return i1.cost < i2.cost;
}
int main()
{
int ch;
do
{
cout<<"\n*** Menu ***";
cout<<"\n1.Insert";
cout<<"\n2.Display";
cout<<"\n3.Search";
cout<<"\n4.Sort";
cout<<"\n5.Delete";
cout<<"\n6.Exit";
cout<<"\nEnter your choice:";
cin>>ch;
```

```

switch(ch)
{
case 1:
insert();
break;

case 2:
display();
break;

case 3:
search();
break;

case 4:
sort(o1.begin(),o1.end(),compare);
cout<<"\n\n Sorted on Cost";
display();
break;

case 5:
dlt();
break;

case 6:
exit(0);
}

}while(ch!=7);
return 0;
}
void insert()
{
Item i1;
cout<<"\nEnter Item Name:";
cin>>i1.name;
cout<<"\nEnter Item Quantity:";
cin>>i1.quantity;
cout<<"\nEnter Item Cost:";
cin>>i1.cost;
cout<<"\nEnter Item Code:";
cin>>i1.code;
o1.push_back(i1);
}
void display()
{
for_each(o1.begin(),o1.end(),print);
}
void print(Item &i1)

```

```

{
    cout<<"\n";
    cout<<"\nItem Name:"<<i1.name;
    cout<<"\nItem Quantity:"<<i1.quantity;
    cout<<"\nItem Cost:"<<i1.cost;
    cout<<"\nItem Code:"<<i1.code;
}
void search()
{
    vector<Item>::iterator p;
    Item i1;
    cout<<"\nEnter Item Code to search:";
    cin>>i1.code;
    p=find(o1.begin(),o1.end(),i1);
    if(p==o1.end())
    {
        cout<<"\nNot found.";
    }
    else
    {
        cout<<"\nFound."<<endl;
        cout<<"Item Name : "<<p ->name<<endl;
        cout<<"Item Quantity : "<<p ->quantity<<endl;
        cout<<"Item Cost : "<<p ->cost<<endl;
        cout<<"Item Code: "<<p ->code<<endl;
    }
}
void dlt()
{
    vector<Item>::iterator p;
    Item i1;
    cout<<"\nEnter Item Code to delete:";
    cin>>i1.code;
    p=find(o1.begin(),o1.end(),i1);
    if(p==o1.end())
    {
        cout<<"\nNot found.";
    }
    else
    {
        o1.erase(p);
        cout<<"\nDeleted.";
    }
}

```

Output:

*** Menu ***

1.Insert

2.Display

3.Search

4.Sort

5.Delete

6.Exit

Enter your choice:1

Enter Item Name:pen

Enter Item Quantity:200

Enter Item Cost:700

Enter Item Code:1

*** Menu ***

1.Insert

2.Display

3.Search

4.Sort

5.Delete

6.Exit

Enter your choice:2

Item Name:pen

Item Quantity:200

Item Cost:700

Item Code:1

*** Menu ***

1.Insert

2.Display

3.Search

4.Sort

5.Delete

6.Exit

Enter your choice:3

Enter Item Code to search:1

Found.

Item Name : pen

Item Quantity : 200

Item Cost : 700

Item Code: 1

*** Menu ***

1.Insert

2.Display

3.Search

4.Sort

5.Delete

6.Exit

Enter your choice:4

Sorted on Cost

Item Name:pen

Item Quantity:200

Item Cost:700

Item Code:1

*** Menu ***

1.Insert

2.Display

3.Search

4.Sort

5.Delete

6.Exit

Enter your choice:5

Enter Item Code to delete:1

Deleted.

*** Menu ***

1.Insert

2.Display

3.Search

4.Sort

5.Delete

6.Exit