

```
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:Book

Enter Item Quantity:300

Enter Item Cost:1000

Enter Item Code:3

*** 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

Item Name:Paper

Item Quantity:100

Item Cost:300

Item Code:2

Item Name:Book

Item Quantity:300

Item Cost:1000

Item Code:3

*** Menu ***

- 1.Insert
- 2.Display
- 3.Search
- 4.Sort
- 5.Delete
- 6.Exit

Enter your choice:3

Enter Item Code to search:2

Found.

Item Name : Paper
Item Quantity : 100
Item Cost : 300
Item Code: 2

- 1.Insert
- 2.Display
- 3.Search
- 4.Sort
- 5.Delete
- 6.Exit

Enter your choice:4

Sorted on Cost

Item Name:Paper
Item Quantity:100
Item Cost:300
Item Code:2

Item Name:Pen
Item Quantity:200
Item Cost:700
Item Code:1

Item Name:Book
Item Quantity:300
Item Cost:1000
Item Code:3

Enter Item Code to delete:2

Deleted.

*** 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

Item Name:Book
Item Quantity:300
Item Cost:1000
Item Code:3

