

******* Assignment No6 *******

Name: Srushti Bibhishan Vhare

Class: SE -I Div:D

Roll No:205A081

Write C++ program using STL for sorting and searching user defined records such as Item records (Item code, name, cost, quantity etc) using vector container.

```
#include<iostream>
#include<algorithm>
#include<vector>
using namespace std;
int n;
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;
    cout<<"How Many Product Want To Store :";
    cin>>n;
    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<<"\nSorted On Cost";
                display();
                break;
            case 5:
                dlt();
                break;
            case 6:
                exit(0);
        }
    } while(ch!=7);
    return 0;
}

void insert()
{
    for(int i=0;i<n;i++)
    {
        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()

```

```

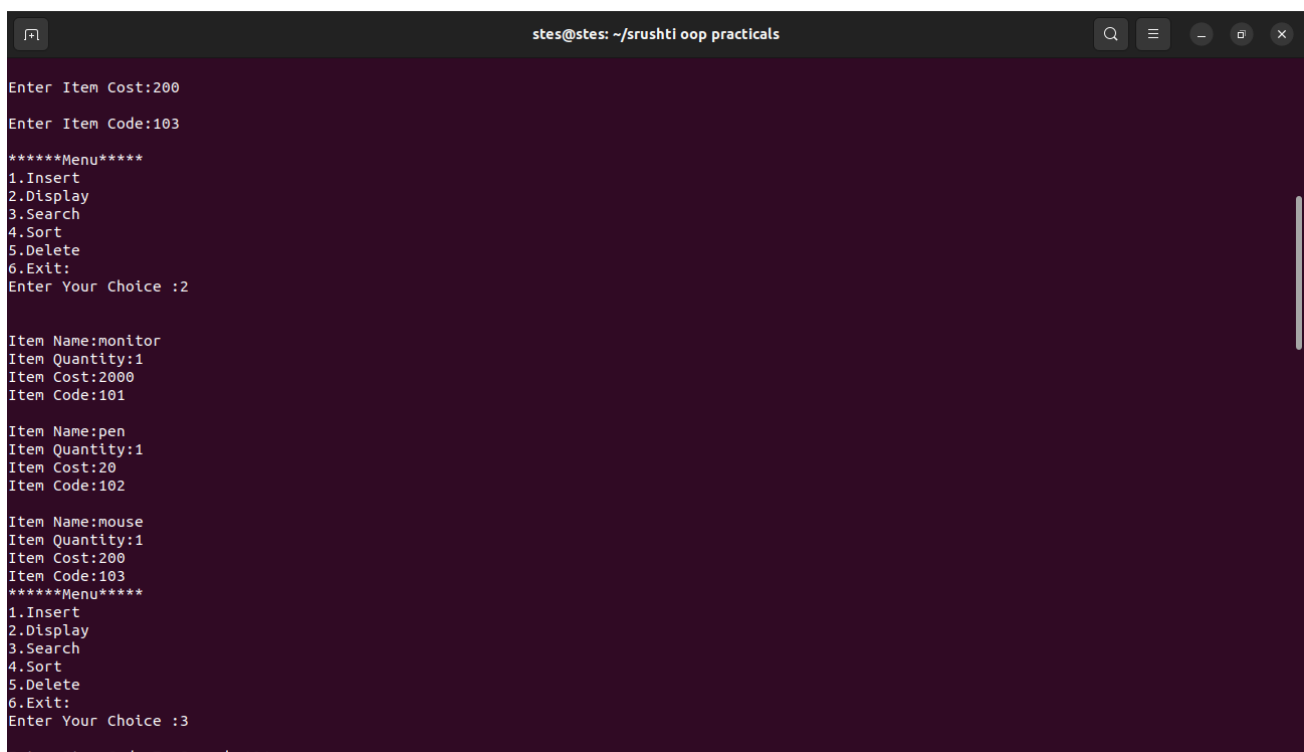
{
    for_each(o1.begin(),o1.end(),print);
}
void print(Item &i1)
{
    cout<<"\n";
    cout<<"\nItem Name:"<<i1.name;
    cout<<"\nItem Quantity:"<<i1.quantity;
    cout<<"\nItem Cost:"<<i1.cost;
    cout<<"\nItem Code:"<<i1.code;
}
void search()
{
    vector<Item>::iterator p;
    Item i1;
    cout<<"\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";
        cout<<"\nItem Name:"<<p->name;
        cout<<"\nItem Quantity:"<<p->quantity;
        cout<<"\nItem Cost:"<<p->cost;
        cout<<"\nItem Code:"<<p->code;
    }
}
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:



```
1#include<iostream>
2#include<algorithm>
3#include<vector>
4using namespace std;
5int n;
6class Item
7{
8    public:
9        char name[10];
10       int quantity;
11       int cost;
12       int code;
13
14       bool operator==(const Item& i1)
15       {
16           if(code==i1.code)
17
18               return 1;
19               return 0;
20       }
21       bool operator<(const Item& i1)
22       {
23           if(code<i1.code)
24
25               return 1;
26               return 0;
27       }
28 }
```



```
stes@stes: ~/srushti oop practicals
Enter Item Cost:200
Enter Item Code:103
*****Menu*****
1.Insert
2.Display
3.Search
4.Sort
5.Delete
6.Exit:
Enter Your Choice :2

Item Name:monitor
Item Quantity:1
Item Cost:2000
Item Code:101

Item Name:pen
Item Quantity:1
Item Cost:20
Item Code:102

Item Name:mouse
Item Quantity:1
Item Cost:200
Item Code:103
*****Menu*****
1.Insert
2.Display
3.Search
4.Sort
5.Delete
6.Exit:
Enter Your Choice :3
Enter Item Code To Search:101
```

```
stes@stes: ~/srushti oop practicals
Enter Your Choice :4
Sorted On Cost
Item Name:pen
Item Quantity:1
Item Cost:20
Item Code:102

Item Name:mouse
Item Quantity:1
Item Cost:200
Item Code:103

Item Name:monitor
Item Quantity:1
Item Cost:2000
Item Code:101
*****Menu*****
1.Insert
2.Display
3.Search
4.Sort
5.Delete
6.Exit:
Enter Your Choice :5

Enter Item Code To Delete:104

Not Found
*****Menu*****
1.Insert
2.Display
3.Search
4.Sort
5.Delete
6.Exit:
Enter Your Choice :5
```

```
stes@stes: ~/srushti oop practicals
Enter Item Code To Delete:104

Not Found
*****Menu*****
1.Insert
2.Display
3.Search
4.Sort
5.Delete
6.Exit:
Enter Your Choice :5

Enter Item Code To Delete:102

Deleted
*****Menu*****
1.Insert
2.Display
3.Search
4.Sort
5.Delete
6.Exit:
Enter Your Choice :2

Item Name:mouse
Item Quantity:1
Item Cost:200
Item Code:103

Item Name:monitor
Item Quantity:1
Item Cost:2000
Item Code:101
*****Menu*****
1.Insert
2.Display
3.Search
```