**#Prathamesh Nagargoje**

#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;

}

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.";

     }

}

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.";

     }

}

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;

}

**Output:**

**\*\*\*\*\* Menu \*\*\*\*\***

**1.Insert**

**2.Display**

**3.Search**

**4.Sort**

**5.Delete**

**6.Exit**

**Enter your choice:1**

**Enter Item Name:pencil**

**Enter Item Quantity:3**

**Enter Item Cost:10**

**Enter Item Code:1**

**\*\*\*\*\* Menu \*\*\*\*\***

**1.Insert**

**2.Display**

**3.Search**

**4.Sort**

**5.Delete**

**6.Exit**

**Enter your choice:2**

**Item Name: ink pencil**

**Item Quantity:3**

**Item Cost:10**

**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.**

**\*\*\*\*\* Menu \*\*\*\*\***

**1.Insert**

**2.Display**

**3.Search**

**4.Sort**

**5.Delete**

**6.Exit**

**Enter your choice:4**

**Sorted on Cost**

**Item Name: ink pen**

**Item Quantity:3**

**Item Cost:10**

**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:6**

**Not found.**

**\*\*\*\*\* Menu \*\*\*\*\***

**1.Insert**

**2.Display**

**3.Search**

**4.Sort**

**5.Delete**

**6.Exit**

**Enter your choice:**