# Practical no : 06

**Title:-** 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.

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# Input:

#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())

{

}

else

{

}

}

cout<<"\nNot found.";

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())

{

}

else

{

}

}

cout<<"\nNot found.";

o1.erase(p); cout<<"\nDeleted.";

# Output:



 