**PRACTICAL NO:06**

**INPUT:**

#include<iostream>

#include<cstring>

#include<cstdlib>

#include<algorithm>

#include<vector>

using namespace std;

typedef struct rec

{

char name[20];

char birthdt[20];

char phone[11];

}node;

node temp;

vector<node>rec;

vector<node>::iterator ptr;

bool compare(node &r1,node &r2)

{

if(strcmp(r1.name,r2.name)<0)

{

return true;

}

else{

return false;

}

}

void create()

{

int n,i;

cout<<"\nHow many elements do you want to insert:";

cin>>n;

cout<<"\nEnter the elements in the database:";

for(i=0;i<n;i++)

{

cout<<"\nName:";

cin>>temp.name;

cout<<"\nBirthdt(dd-mm-yy):";

cin>>temp.birthdt;

cout<<"\nPhone number:";

cin>>temp.phone;

rec.push\_back(temp);

}

}

void display()

{

cout<<"\n\tThe contents of the database are:";

cout<<"\n--------------------------------------------------\n";

cout<<"NAME DATE OF BIRTH PHONE NUMBER\n";

cout<<"------------------------------------------------------\n";

for(ptr=rec.begin();ptr!=rec.end();ptr++)

{

cout<<"\n";

cout<<(\*ptr).name<<" "<<(\*ptr).birthdt<<" "<<(\*ptr).phone;

}

}

void searching()

{

char key[20];

int flag=0;

cout<<"\nEnter the name which you want to search:";

cin>>key;

for(ptr=rec.begin();ptr!=rec.end();ptr++)

{

if(strcmp((\*ptr).name,key)==0)

{

flag=1;

break;

}

else{

flag=0;

}

}

if(flag==1)

{

cout<<"\nDesired element is present in the database:";

}

else{

cout<<"\nDesired element is not present in th database:";

}

}

void sorting()

{

sort(rec.begin(),rec.end(),compare);

cout<<"\nRecord is sorted!!!"<<endl;

}

int main()

{

char ans='y';

int choice;

cout<<"\t program for searching and sorting";

do{

cout<<"\nMain Menu";

cout<<"\n1.create a database"<<endl;

cout<<"2.Display the database"<<endl;

cout<<"3.Search the element in the database"<<endl;

cout<<"4.sort the satabase(based on name)"<<endl;

cout<<"Enter the choice what do you want:";

cin>>choice;

switch(choice)

{

case 1:create();

break;

case 2:display();

break;

case 3:searching();

break;

case 4:sorting();

display();

break;

}

cout<<"\n Do you want to go back to the menu:";

cin>>ans;

}while(ans=='y');

return 0;

}

**OUTPUT:**

program for searching and sorting

Main Menu

1.create a database

2.Display the database

3.Search the element in the database

4.sort the satabase(based on name)

Enter the choice what do you want:1

How many elements do you want to insert:2

Enter the elements in the database:

Name:gaurav

Birthdt(dd-mm-yy):18-09-2005

Phone number:8600619076

Name:Samarth

Birthdt(dd-mm-yy):11-10-2005

Phone number:9588441621

Do you want to go back to the menu:y

Main Menu

1.create a database

2.Display the database

3.Search the element in the database

4.sort the satabase(based on name)

Enter the choice what do you want:2

The contents of the database are:

--------------------------------------------------

NAME DATE OF BIRTH PHONE NUMBER

------------------------------------------------------

gaurav 18-09-2005 8600619076

Samarth 11-10-2005 9588441621

Do you want to go back to the menu:y

Main Menu

1.create a database

2.Display the database

3.Search the element in the database

4.sort the satabase(based on name)

Enter the choice what do you want:3

Enter the name which you want to search:Samarth

Desired element is present in the database:

Do you want to go back to the menu:y

Main Menu

1.create a database

2.Display the database

3.Search the element in the database

4.sort the satabase(based on name)

Enter the choice what do you want:4

Record is sorted!!!

The contents of the database are:

--------------------------------------------------

NAME DATE OF BIRTH PHONE NUMBER

------------------------------------------------------

Samarth 11-10-2005 9588441621

gaurav 18-09-2005 8600619076

Do you want to go back to the menu: