PRACTICAL NO 6

#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 <<"\n How many elements you want to insert?"<<endl;

cin>>n;

cout<<"\n Enter the Elements in the database"<<endl;

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

{

cout<<"\n Name: ";

cin>>temp.name;

cout<<"\n Birth Date(dd-mm-yy): ";

cin>>temp.BirthDt;

cout<<"\n Phone: ";

cin>>temp.phone;

rec.push\_back(temp);

}

}

void Display()

{

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

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

cout<<"\n Name Birth Date Phone";

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

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

{

cout<<"\n";

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

cout<<" "<<(\*ptr).BirthDt;

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

}

}

void Searching()

{

char key[20];

int flag=0;

cout<<"\n Enter 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<<"\n The desired element is present in the database ";

else

cout<<"\n The desired element is not present in the database ";

}

void Sorting()

{

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

cout <<"\n\n Record is Sorted!!! "<<endl;

}

int main()

{

char ans='y';

int choice;

cout<<"\n Program for Searching and sorting ";

do

{

cout<<"\n Main Menu ";

cout<<"\n 1. Create a database ";

cout<<"\n 2. Display a database ";

cout<<"\n 3. Search particular element";

cout<<"\n 4. Sort the database(based on name)";

cout<<"\n Enter your choice: ";

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 Main Menu? ";

cin>>ans;

}while(ans=='y');

return 0;

}

**OUTPUT:-**

Program for Searching and sorting

Main Menu

1. Create a database

2. Display a database

3. Search particular element

4. Sort the database(based on name)

Enter your choice: 1

How many elements you want to insert?

3

Enter the Elements in the database

Name: AAA

Birth Date(dd-mm-yy): 01-01-2001

Phone: 123

Name: CCC

Birth Date(dd-mm-yy): 03-03-2003

Phone: 456

Name: BBB

Birth Date(dd-mm-yy): 02-02-2002

Phone: 789

Do you want to go back to Main Menu? y

Main Menu

1. Create a database

2. Display a database

3. Search particular element

4. Sort the database(based on name)

Enter your choice: 2

The contents of the database are:

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

Name Birth Date Phone

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

AAA 01-01-2001 123

CCC 03-03-2003 456

BBB 02-02-2002 789

Do you want to go back to Main Menu? y

Main Menu

1. Create a database

2. Display a database

3. Search particular element

4. Sort the database(based on name)

Enter your choice: 3

Enter the name which you want to search CCC

The desired element is present in the database

Do you want to go back to Main Menu? y

Main Menu

1. Create a database

2. Display a database

3. Search particular element

4. Sort the database(based on name)

Enter your choice: 4

Record is Sorted!!!

The contents of the database are:

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

Name Birth Date Phone

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

AAA 01-01-2001 123

BBB 02-02-2002 789

CCC 03-03-2003 456