Useful programs to keep in mind

***Bubble Sort***

for (int i = 0; i < size; i++) {

for (int j = 0; j < size - 1; j++) {

if (arr[j] > arr[j + 1]) {

temp = arr[j];

arr[j] = arr[j + 1];

arr[j + 1] = temp;

}

}

}

for (int i = 0; i < size;i++) {

cout << arr[i] << endl;

}

***Searching an element in an array***

int searchElemnt,arr[10];

bool flag = false;

cout << "Enter the element you want to search" << endl;

cin >> searchElemnt;

for (int i = 0; i < 10; i++) {

if (arr[i] == searchElemnt) {

cout << "Element found at index " << i << endl;

flag = true;

}

}

if (flag == false) {

cout << "Element doesn't exist" << endl;

}

***Updating an element in an array***

int updateElement, newElement, arr[10];

bool flag = false;

cout << "Enter the element you want to update" << endl;

cin >> updateElement;

for (int i = 0; i < 10; i++) {

if (arr[i] == updateElement) {

cout << "Element found, Enter new element" << endl;

cin >> newElement;

arr[i] = newElement;

flag = true;

}

}

if (flag == true) {

cout << "Element was updated succesfully" << endl;

}

else if (flag == false) {

cout << "Element doesn't exist" << endl;

}

***Deleting an element from an array***

int delElement, arr[10];

bool flag = false;

cout << "Enter the element you want to delete" << endl;

cin >> delElement;

for (int i = 0;i<10;i++){

if (arr[i] == delElement) {

flag = true;

for (int j = i; j < 10 - 1; j++) {

arr[j] = arr[j + 1];

arr[j + 1] = NULL;

}

}

}

if (flag == true) {

cout << "Element was deleted successfuly" << endl;

}

else if (flag == false) {

cout << "Element not found" << endl;

}

***Search for an element in a file and displaing its line no:***

string fileSearch,data,line;

int lineNo = 0;

ifstream filein;

ofstream fileout;

filein.open("data.txt");

if (filein.is\_open()) {

cout << "Enter the element you want to search for" << endl;

cin >> fileSearch;

while (getline(filein, data)) {

if (data.find(fileSearch) != string::npos) {

cout << "Element found at line no : " << lineNo;

}

lineNo++;

}

}

else {

cout << "unable to open file" << endl;

}

***Searching for an element in a file and displaying its next lines***

string fileSearch,data,line;

int lineNo = 0,noOfLines = 2;

ifstream filein;

ofstream fileout;

filein.open("data.txt");

if (filein.is\_open()) {

cout << "Enter the element you want to search for" << endl;

cin >> fileSearch;

while (getline(filein, data)) {

if (data.find(fileSearch) != string::npos) {

while (getline(filein, line)) {

for (int i = 0; i < noOfLines; i++) {

cout << line;

}

}

}

lineNo++;

}

}

else {

cout << "unable to open file" << endl;

}

***A menu driven program for updating and deleting data from file using structures***

#include <iOStream>

#include <string>

#include <fstream>

using namespace std;

int main() {

string searchName, newName, delName;

ifstream filein;

ofstream fileout;

struct student {

string name;

int age, ID;

}obj[10];

int i = 0;

char choice, loopChoice;

do {

cout << "Press 1 to enter data" << endl

<< "Press 2 to update data" << endl

<< "Press 3 to delete data" << endl;

cin >> choice;

switch (choice) {

case '1': {

cout << "Enter name" << endl;

cin >> obj[i].name;

cout << "Enter age " << endl;

cin >> obj[i].age;

cout << "Enter ID" << endl;

cin >> obj[i].ID;

fileout.open("Student data.txt", ios::app);

if (fileout.is\_open()) {

fileout << "Name of student : " << obj[i].name

<< endl << "Age of student : " << obj[i].age

<< endl << "ID of student : " << obj[i].ID << endl;

fileout.close();

i = i + 1;

}

else {

cout << "Can't open file" << endl;

}

break;

}

case '2':

{

cout << "Enter the name of the stuedent" << endl;

cin >> searchName;

bool flag = false;

for (int j = 0; j < i; j++) {

if (obj[j].name == searchName) {

flag = true;

cout << "record found" << endl

<< "Enter new name" << endl;

cin >> newName;

obj[j].name = newName;

}

}

if (flag == false) {

cout << "record not found" << endl;

}

else if (flag = true) {

remove("Student data.txt");

for (int j = 0; j < i; j++) {

fileout.open("Student data.txt", ios::app);

fileout << "Name of student : " << obj[j].name

<< endl << "Age of student : " << obj[j].age

<< endl << "ID of student : " << obj[j].ID << endl;

fileout.close();

}

}

break;

}

case '3':

{

cout << "Enter the name you want to delete" << endl;

cin >> delName;

for (int j = 0; j < i; j++) {

if (obj[j].name == delName) {

obj[j].name = " ";

obj[j].age = 0;

obj[j].ID = 0;

for (int k = j; k < i; k++) {

obj[k].name = obj[k + 1].name;

obj[k].age = obj[k + 1].age;

obj[k].ID = obj[k + 1].ID;

}

}

}

remove("Student data.txt");

for (int j = 0; j < i; j++) {

fileout.open("Student data.txt", ios::app);

fileout << "Name of student : " << obj[j].name

<< endl << "Age of student : " << obj[j].age

<< endl << "ID of student : " << obj[j].ID << endl;

fileout.close();

}

break;

}

}

cout << "Press y if you want to continue" << endl;

cin >> loopChoice;

} while (loopChoice == 'y');

return 0;

}