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#include <iostream>
#include <fstream>
#include <sstream>
#include <cstring>
using namespace std;
struct studentRecord {
char name[50];
int roll;
char div[20];
char address[100];
};
void getData(studentRecord& Records) {
cout << "Enter the name of student:";
cin >> Records.name;
cout << "Enter the roll number :";
cin >> Records.roll;
cout << "Enter the division :";
cin >> Records.div;
cout << "Enter the address of student:";
cin >> Records.address;
}
void putData(const studentRecord& Records) {
cout << "Student data is :" << endl;
cout << "Name: " << Records.name << endl;
cout << "Roll Number: " << Records.roll << endl;
cout << "Division: " << Records.div << endl;
cout << "Address: " << Records.address << endl;
}
void write() {
ofstream seqfile("C:\\Users\\Acer\\Desktop\\file1.txt", ios::out | ios::app);
if (!seqfile.is_open()) {
cout << "Error opening file!" << endl;
return;}
char choice;
do {
studentRecord Records;
getData(Records);
seqfile << Records.name << " " << Records.roll << " " << Records.div << " " << Records.address
<<
endl;
cout << "Do you want to add another student? (y/n): ";
cin >> choice;
} while (choice == 'y' || choice == 'Y');
seqfile.close();
}
void read() {
ifstream seqfile_read("C:\\Users\\Acer\\Desktop\\file1.txt", ios::in);
if (!seqfile_read.is_open()) {
cout << "Error opening file!" << endl;
return;
}
studentRecord Records;
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while (seqfile_read >> Records.name >> Records.roll >> Records.div >> Records.address) {
putData(Records);
}
seqfile_read.close();
}
string search(int rolln) {
ifstream seqfile("C:\\Users\\Acer\\Desktop\\file1.txt", ios::in);
if (!seqfile.is_open()) {
return "Error opening file!";
}
studentRecord Records;
while (seqfile >> Records.name >> Records.roll >> Records.div >> Records.address) {
if (Records.roll == rolln) {
seqfile.close();
stringstream foundData;
cout<<"student found"<<endl;
foundData << "Student data is :" << endl;
foundData << "Name: " << Records.name << endl;
foundData << "Roll Number: " << Records.roll << endl;
foundData << "Division: " << Records.div << endl;foundData << "Address: " << Records.address
<< endl;
return foundData.str();
}
}
seqfile.close();
return "No student found with provided roll number.";
}
void update(int rolln) {
fstream seqfile("C:\\Users\\Acer\\Desktop\\file1.txt", ios::in | ios::out);
if (!seqfile.is_open()) {
cout << "Error opening file!" << endl;
return;
}
studentRecord Records;
bool found = false;
while (seqfile >> Records.name >> Records.roll >> Records.div >> Records.address) {
if (Records.roll == rolln) {
found = true;
cout << "Enter new data for the student:" << endl;
getData(Records);
seqfile.seekp(seqfile.tellg());
seqfile << Records.name << " " << Records.roll << " " << Records.div << " " << Records.address
<< endl;
break;
}
}
seqfile.close();
if (!found) {
cout << "Student with roll number " << rolln << " not found." << endl;
} else {
cout << "Student with roll number " << rolln << " updated successfully." << endl;
}
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}
void deleteFile() {
ifstream oFile("C:\\Users\\Acer\\Desktop\\file1.txt",ios::in);
if (!oFile.is_open()) {
cout << "error opening file for reading" << endl;
return;
}
ofstream tFile("C:\\Users\\Acer\\Desktop\\file2.txt",ios::out);
if (!tFile.is_open()) {
cout << "error creating temporary file" << endl;
oFile.close();
return;}
tFile << oFile.rdbuf();
oFile.close();
tFile.close();
if (remove("C:\\Users\\Acer\\Desktop\\file1.txt") != 0) {
cout << "error deleting file" << endl;
return;
}
cout << "File deleted successfully!" << endl;
}
int main() {
int choice;
do {
cout<<"operations are:"<<endl;
cout << "1. Write data" << endl;
cout << "2. Read data" << endl;
cout << "3. Update data" << endl;
cout << "4. Search data" << endl;
cout << "5. Delete file" << endl;
cout << "6. Exit" << endl;
cout << "Enter your choice: ";
cin >> choice;
switch (choice) {
case 1:
write();
break;
case 2:
read();
break;
case 3: {
int rollNumber;
cout << "Enter the roll number to update: ";
cin >> rollNumber;
update(rollNumber);
break;
}
case 4: {
int rollNumber;
cout << "Enter the roll number to search: ";
cin >> rollNumber;
cout << search(rollNumber) << endl;
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break;
}case 5:
deleteFile();
break;
case 6:
cout << "Exiting program." << endl;
break;
default:
cout << "Invalid choice, please enter again." << endl;
break;
}
} while (choice != 6);
return 0;
}
```