#include <iostream>

#include <Windows.h>

#include <conio.h>

using namespace std;

// Student username,password,name,surname,age , registerDate

//1.Sign In(username, password daxil edir)

//eger bele bir telebe varsa

//yazsin ki Welcome University

//

////sechim olsun

//Show All Students

//

//

//2.Sign Up

//username, password, name, surname, age, (registerDate avtomatik)

//melumatlari daxil edir ve qeydiyyat tamamlanir

//sadece eyni username de telebe varsa, username deyishsin

struct Student

{

char\* name;

char\* surname;

char\* username;

char\* password;

char\* age;

const char\* registrationDay;

};

int students\_count = 0;

Student\*\* students = new Student \* [students\_count] {};

bool Exists(const char\* filename) {

FILE\* file;

fopen\_s(&file, filename, "rb");

if (file != nullptr) {

fclose(file);

return true;

}

return false;

}

void ShowMenu()

{

system("cls");

cout << "\n ========= MAIN MENU =========" << endl;

cout << "\n Sign In (1) | Sign Up (2) " << endl;

cout << "\n =============================" << endl;

}

void CinPassword(char\*& password)

{

int i = 0;

while ((password[i] = \_getch()) != '\r')

{

if (int(password[i]) == 8)

{

if (i > 0)

{

password[i] = NULL;

password[i - 1] = NULL;

i -= 1;

cout << "\b \b";

}

}

else if (int(password[i]) == 32)

{

continue;

}

else

{

cout << "\*";

i++;

}

}

}

bool UniqueUsername(char\* username)

{

for (int x = 0; x < students\_count; x++)

{

if (strcmp(students[x]->username, username) == 0)

{

return false;

}

}

return true;

}

void ShowAll();

Student\* GetNewStudent()

{

system("cls");

cout << "\n =========== REGISTRATION =========== " << endl;

cin.ignore();

cin.clear();

const int size = 100;

char\* name = new char[size] {};

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

cin.getline(name, size);

char\* surname = new char[size] {};

cout << " Enter your surname : ";

cin.getline(surname, size);

char\* username = new char[size] {};

cout << " Enter your username : ";

cin.getline(username, size);

char\* password = new char[size] {};

cout << " Enter your password : ";

CinPassword(password);

char\* age = new char[size] {};

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

cin.getline(age, size);

if (UniqueUsername(username))

{

cout << "\n ==================================== " << endl;

Student\* student = new Student{ name,surname,username,password,age,\_\_DATE\_\_ };

return student;

}

else

{

return nullptr;

}

}

void AddStudent(Student\* student)

{

Student\*\* new\_students = new Student \* [students\_count + 1]{};

for (int x = 0; x < students\_count; x++)

{

new\_students[x] = students[x];

}

new\_students[students\_count] = student;

students = new\_students;

new\_students = nullptr;

students\_count++;

}

void WriteStudentsToFile(FILE\*& file, const char\*& filename)

{

fopen\_s(&file, filename, "wb");

// Writing The Number Of Students

fwrite(&students\_count, sizeof(int), 1, file);

for (int x = 0; x < students\_count; x++)

{

// Writing Name

int l1 = strlen(students[x]->name);

fwrite(&l1, sizeof(int), 1, file);

fwrite(students[x]->name, sizeof(char), strlen(students[x]->name), file);

// Writing Surname

int l2 = strlen(students[x]->surname);

fwrite(&l2, sizeof(int), 1, file);

fwrite(students[x]->surname, sizeof(char), strlen(students[x]->surname), file);

// Writing Username

int l3 = strlen(students[x]->username);

fwrite(&l3, sizeof(int), 1, file);

fwrite(students[x]->username, sizeof(char), strlen(students[x]->username), file);

// Writing Password

int l4 = strlen(students[x]->password);

fwrite(&l4, sizeof(int), 1, file);

fwrite(students[x]->password, sizeof(char), strlen(students[x]->password), file);

// Writing Age

int l5 = strlen(students[x]->age);

fwrite(&l5, sizeof(int), 1, file);

fwrite(students[x]->age, sizeof(char), strlen(students[x]->age), file);

// Writing Date

int l6 = strlen(students[x]->registrationDay);

fwrite(&l6, sizeof(int), 1, file);

fwrite(students[x]->registrationDay, sizeof(char), strlen(students[x]->registrationDay), file);

}

fclose(file);

}

Student\*\* ReadStudentsFromFile(FILE\*& file, const char\*& filename)

{

int new\_students\_count = 0;

fopen\_s(&file, filename, "rb");

// Reading the number of the students

fread\_s(&new\_students\_count, sizeof(int), sizeof(int), 1, file);

students\_count = new\_students\_count;

Student\*\* new\_students = new Student \* [new\_students\_count] {};

for (int x = 0; x < new\_students\_count; x++)

{

// Reading Name

int name\_len = 0;

fread(&name\_len, sizeof(int), 1, file);

char\* name = new char[name\_len + 1]{};

fread\_s(name, name\_len, sizeof(char), name\_len, file);

// Reading Surname

int surname\_len = 0;

fread(&surname\_len, sizeof(int), 1, file);

char\* surname = new char[surname\_len + 1]{};

fread\_s(surname, surname\_len, sizeof(char), surname\_len, file);

// Reading Username

int username\_len = 0;

fread(&username\_len, sizeof(int), 1, file);

char\* username = new char[username\_len + 1]{};

fread\_s(username, username\_len, sizeof(char), username\_len, file);

// Reading Password

int password\_len = 0;

fread(&password\_len, sizeof(int), 1, file);

char\* password = new char[password\_len + 1]{};

fread\_s(password, password\_len, sizeof(char), password\_len, file);

// Reading Age

int age\_len = 0;

fread(&age\_len, sizeof(int), 1, file);

char\* age = new char[age\_len + 1]{};

fread\_s(age, age\_len, sizeof(char), age\_len, file);

// Reading Date

int date\_len = 0;

fread(&date\_len, sizeof(int), 1, file);

char\* date = new char[date\_len + 1]{};

fread\_s(date, date\_len, sizeof(char), date\_len, file);

new\_students[x] = new Student{ name,surname,username,password,age,date };

}

fclose(file);

return new\_students;

}

int ReadStudentCount(FILE\*& file, const char\*& filename)

{

int new\_students\_count = 0;

fopen\_s(&file, filename, "rb");

// Reading the number of the students

fread\_s(&new\_students\_count, sizeof(int), sizeof(int), 1, file);

fclose(file);

return new\_students\_count;

}

void ShowAll(FILE\*& file, const char\*& filename)

{

students = ReadStudentsFromFile(file,filename);

system("cls");

cout << "\n ============ ALL STUDENTS ============ " << endl;

if (students\_count != 0)

{

for (int x = 0; x < students\_count; x++)

{

cout << "\n Name : " << students[x]->name << endl;

cout << " Surname : " << students[x]->surname << endl;

cout << " Username : " << students[x]->username << endl;

//cout << " Password : " << students[x]->password << endl;

cout << " Age : " << students[x]->age << endl;

cout << " Registration date : " << students[x]->registrationDay << endl;

cout << "\n =======================================" << endl;

}

cout << endl;

system("pause");

}

else

{

cout << "\n There is not a student." << endl;

Sleep(1000);

}

}

void SignUp(FILE\*& file, const char\* filename)

{

Student\* student = GetNewStudent();

if (student != nullptr)

{

AddStudent(student);

WriteStudentsToFile(file, filename);

students = ReadStudentsFromFile(file, filename);

}

else

{

system("cls");

cout << "\n Username has taken before. Account was not created." << endl;

Sleep(3000);

}

}

bool UserExists(const char\* username, const char\* password)

{

for (int x = 0; x < students\_count; x++)

{

if (strcmp(students[x]->username, username) == 0)

{

if (strcmp(students[x]->password, password) == 0)

{

return true;

}

}

}

return false;

}

void ShowUserMenu()

{

system("cls");

cout << "\n ============== MENU ==============" << endl;

cout << "\n See All Students 1 " << endl;

cout << " Go Back To Main Menu 2 " << endl;

cout << "\n ==================================" << endl;

}

void SignIn(FILE\*& file, const char\* filename)

{

cin.ignore();

cin.clear();

int size = 100;

system("cls");

cout << "\n ========= LOG IN =========" << endl;

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

char\* username = new char[size]{};

cin.getline(username, size);

cout << " Enter your password : ";

char\* password = new char[size] {};

CinPassword(password);

if (UserExists(username,password))

{

system("cls");

cout << "\n Welcome to the University!" << endl;

Sleep(3000);

system("cls");

while (true)

{

ShowUserMenu();

char choice = 0;

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

cin >> choice;

if (choice == '1')

{

ShowAll(file,filename);

}

else if (choice == '2')

{

break;

}

else

{

system("cls");

cout << "\n Incorrect Input!" << endl;

Sleep(3000);

}

}

}

else

{

system("cls");

cout << "\n Incorrect username or password!" << endl;

Sleep(3000);

}

}

int main()

{

FILE\* file;

const char\* filename = "students.bin";

fopen\_s(&file, filename, "rb");

fclose(file);

students = ReadStudentsFromFile(file,filename);

while (true)

{

ShowMenu();

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

char choice = 0;

cin >> choice;

if (choice == '1')

{

SignIn(file,filename);

}

else if (choice == '2')

{

SignUp(file, filename);

}

else

{

system("cls");

cout << "\n Incorrect Input! " << endl;

Sleep(3000);

}

}

}