PF Project

#include <iostream>

#include <map>

#include <string>

using namespace std;

class StudentDatabase {

private:

map<string, string> students;

public:

void addStudent() {

string studentId, name;

cout << "Enter student ID: ";

cin >> studentId;

if (students.find(studentId) != students.end()) {

cout << "Student ID already exists!" << endl;

return;

}

cout << "Enter student name: ";

cin.ignore();

getline(cin, name);

students[studentId] = name;

cout << "Student added successfully!" << endl;

}

void removeStudent() {

string studentId;

cout << "Enter student ID to remove: ";

cin >> studentId;

if (students.find(studentId) == students.end()) {

cout << "Student ID not found!" << endl;

return;

}

students.erase(studentId);

cout << "Student removed successfully!" << endl;

}

void displayStudents() {

if (students.empty()) {

cout << "No students in the database!" << endl;

return;

}

cout << "Student Database:" << endl;

for (const auto& student : students) {

cout << "ID: " << student.first << ", Name: " << student.second << endl;

}

}

};

int main() {

StudentDatabase database;

while (true) {

cout << "\nStudent Database Menu:" << endl;

cout << "1. Add Student" << endl;

cout << "2. Remove Student" << endl;

cout << "3. Display Students" << endl;

cout << "4. Exit" << endl;

int choice;

cout << "Enter your choice: ";

cin >> choice;

switch (choice) {

case 1:

database.addStudent();

break;

case 2:

database.removeStudent();

break;

case 3:

database.displayStudents();

break;

case 4:

return 0;

default:

cout << "Invalid choice! Please try again." << endl;

}

}

return 0;

}