// Include all the necessary libraries.

#include <fstream>

#include <iostream>

#include <stdio.h>

#include <string.h>

using namespace std;

int main()

{

// Considering the max length of data entered (name) to

// be 15.

char data[15];

int n = 0, option = 0, count\_n = 0;

// This is the initial mark allotted to a subject.

string empty = "00";

string proctor = "";

// Name of the file in which DB is stored.

ifstream f("Example.txt");

string line;

// The following for loop counts the total number of

// lines in the file.

for (int i = 0; std::getline(f, line); ++i) {

count\_n++;

}

while (option != 6) {

// This prints out all the available options in the

// DB

cout << "\nAvailable operations: \n1. Add New "

"Students\n2."

<< "Student Login\n3. Faculty Login\n4. "

"Proctor Login\n5. Admin View\n"

<< "6. Exit\nEnter option: ";

cin >> option;

if (option == 1) {

cout << "Enter the number of students: ";

cin >> n;

count\_n = count\_n + n;

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

ofstream outfile;

outfile.open("Example.txt", ios::app);

// The entire data of a single student is

// stored line-by-line.

cout << "Enter your registration number: ";

cin >> data;

outfile << data << "\t";

cout << "Enter your name: ";

cin >> data;

int len = strlen(data);

while (len < 15) {

data[len] = ' ';

len = len + 1;

}

outfile << data << "\t";

// Inserting empty data initially into the

// file

outfile << empty << "\t";

outfile << empty << "\t";

cout << "Enter your proctor ID: ";

cin >> proctor;

outfile << proctor << endl;

}

}

else if (option == 2) {

char regno[9];

cout << "Enter your registration number: ";

cin >> regno;

ifstream infile;

int check = 0;

infile.open("Example.txt", ios::in);

// This loop prints out the data according to

// the registration number specified.

while (infile >> data) {

if (strcmp(data, regno) == 0) {

cout

<< "\nRegistration Number: " << data

<< endl;

infile >> data;

cout << "Name: " << data << endl;

infile >> data;

cout << "CSE1001 mark: " << data

<< endl;

infile >> data;

cout << "CSE1002 mark: " << data

<< endl;

infile >> data;

cout << "Proctor ID: " << data << endl;

infile.close();

check = 1;

}

}

if (check == 0) {

cout << "No such registration number found!"

<< endl;

}

}

// This loop is used to view and add marks to the

// database of a student.

else if (option == 3) {

char subcode[7];

cout << "Enter your subject code: ";

cin >> subcode;

string code1 = "CSE1001", code2 = "CSE1002",

mark = "";

ifstream infile;

int check = 0;

cout << "\nAvailable operations: \n1. Add data "

"about marks\n"

<< "2. View data\nEnter option: ";

cin >> option;

if (option == 1) {

cout

<< "Warning! You would need to add mark"

<< "details for all the students!"

<< endl;

for (int i = 0; i < count\_n; i++) {

fstream file("Example.txt");

// The seek in file has been done

// according to the length

// of the data being inserted. It needs

// to adjusted accordingly for different

// lengths of data.

if (strcmp(subcode, code1.c\_str())

== 0) {

file.seekp(26 + 37 \* i,

std::ios\_base::beg);

cout << "Enter the mark of student#"

<< (i + 1) << " : ";

cin >> mark;

file.write(mark.c\_str(), 2);

}

if (strcmp(subcode, code2.c\_str())

== 0) {

file.seekp(29 + 37 \* i,

std::ios\_base::beg);

cout << "Enter the mark of student#"

<< (i + 1) << " : ";

cin >> mark;

file.write(mark.c\_str(), 2);

}

}

}

// This loop is used to view marks of a student.

// The extra infile commands have been used to

// get a specific mark only since the data has

// been separated by a tabspace.

else if (option == 2) {

infile.open("Example.txt", ios::in);

if (strcmp(subcode, code1.c\_str()) == 0) {

cout << "Registration number - Marks\n"

<< endl;

while (infile >> data) {

cout << data;

infile >> data;

infile >> data;

cout << " - " << data << endl;

infile >> data;

infile >> data;

check = 1;

}

}

infile.close();

infile.open("Example.txt", ios::in);

if (strcmp(subcode, code2.c\_str()) == 0) {

cout << "Registration number - Marks\n"

<< endl;

while (infile >> data) {

cout << data;

infile >> data;

infile >> data;

infile >> data;

cout << " - " << data << endl;

infile >> data;

check = 1;

}

}

}

infile.close();

if (check == 0) {

cout << "No such subject code found!"

<< endl;

}

}

// This loop displays all the details of students

// under the same proctor ID.

else if (option == 4) {

char procid[7];

cout << "Enter your proctor ID: ";

cin >> procid;

int check = 0;

char temp1[100], temp2[100], temp3[100];

char temp4[100], id[100];

ifstream infile;

infile.open("Example.txt", ios::in);

while (infile >> temp1) {

infile >> temp2;

infile >> temp3;

infile >> temp4;

infile >> id;

if (strcmp(id, procid) == 0) {

cout << "\nRegistration Number: "

<< temp1 << endl;

cout << "Name: " << temp2 << endl;

cout << "CSE1001 Mark: " << temp3

<< endl;

cout << "CSE1002 Mark: " << temp4

<< endl;

check = 1;

}

}

if (check == 0) {

cout << "No such proctor ID found!" << endl;

}

}

// This loop acts as an admin view to see all the

// data in the file.

else if (option == 5) {

char password[25];

cout << "Enter the admin password: ";

cin >> password;

// This variable value can be changed according

// to your requirement of the administrator

// password.

string admin\_pass = "admin";

if (strcmp(password, admin\_pass.c\_str()) == 0) {

cout << "Reg No. "

"\tName\tCSE1001\tCSE1002\tProctor "

"ID"

<< endl;

ifstream infile;

infile.open("Example.txt", ios::in);

char data[20];

while (infile >> data) {

cout << data << "\t";

infile >> data;

cout << data << "\t";

infile >> data;

cout << data << "\t";

infile >> data;

cout << data << "\t";

infile >> data;

cout << data << endl;

}

}

}

}

}