

College of Computer Sciences and Information Technology

King Faisal University

Fundamentals of Programming

Final Project

Student data storage program Final Project Group C

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I. PROJECT DESCRIPTION

A simple database that can be used by student affairs to store student data electronically, including adding, removing, or modifying records

II. PROGRAM FEATURES

1.Add new student - this feature will let the user to add student details such as ID,name,age,phone number, student major, number of courses studied,number of hours collected, student level of 8,the rate.

2.Delete student records this feature will let the user to Delete Specific student details by Student ID.

3.Find Student details - this feature will let the user to search about Specific student details the by Student ID or phone number.

4.update Student details - this feature will let the user to update Student details by Student ID .

5. The program can know if student data is stored or not when searching.

6. Data is kept even when the program is closed.

II. USER MANUAL

1. Enter 1 to Add new student.

```
Available operations:
1. Add New Students
2. Delete student records
3. Find Student details
4. update Student details
5. Exit
Enter option: 1
```

And add the student details.

```
Enter ID number : 123
Enter first name : Ali
Enter last name : Alqattan
Enter age : 20
Enter a phone number : 0558831521
Enter student major : CCSIT
Enter number of courses studied : 8
Enter number of hours collected : 14
Enter student level of 8 : 2
Enter the GPA of 5 : 5
Information added successfully
```

2. Enter 2 to Delete student details.

```
Available operations:
1. Add New Students
2. Delete student records
3. Find Student details
4. update Student details
5. Exit
Enter option: 2_
```

Then enter the student ID to Delete.

```
Enter option: 2
Enter the ID number to delete record : 1234
The data has been deleted
Available operations:
1. Add New Students
2. Delete student records
3. Find Student details
4. update Student details
5. Exit
Enter option:
```

3. Enter 3 to Find Student details.

```
1. Add New Students
2. Delete student records
3. Find Student details
4. update Student details
5. Exit
Enter option: 3
```

Then enter how you want search by ID or phone number.

Enter 1 by ID.

And enter the ID and the will show you Student details.

```
Do you want to search by ID or phone number ?
1.ID
2.Phone number
Enter option: 1
Enter the ID to search about it : 123
ID number : 123
Name : Ali Alqattan
Age : 20
phone number : 0558831521
Major : CCSIT
Number of courses studied : 8
Number of hours collected : 14
Student level : 2
Student GPA : 5
```

Or

Enter 2 by phone number.

And enter the phone number and the will show you Student details.

```
Do you want to search by ID or phone number ?
1.ID
2.Phone number
Enter option: 2

Enter the phone number to search about it : 0558831521

ID number : 123
Name : Ali Alqattan
Age : 20
phone number : 0558831521
Major : CCSIT
Number of courses studied : 8
Number of hours collected : 14
Student level : 2
Student GPA : 5
```

4.Enter 4 to update Student details.

And enter the ID and enter the new details.

```
Enter the ID number to update record : 123

Enter the new Information

Enter ID number : 1234

Enter first name : Ali

Enter last name :Ali

Enter age : 25

Enter a phone number : 0558831521

Enter student major :CCSIT

Enter number of courses studied :10

Enter number of hours collected :16

Enter student level of 8 :3

Enter the GPA of 5 :4.5

The data has been updated
```

5.Enter 5 To close the program.

```
Available operations:
1. Add New Students
2. Delete student records
3. Find Student details
4. update Student details
5. Exit
Enter option: 5_
```

IV. Program Code

```
//Include all the necessary libraries.

#include <iostream>

#include <fstream>

#include <string.h>

using namespace std;

void add_student()// Function to add_student data.
{
//Considering the max length of data entered to be 25.
    char name [25];
    char name1[25];
    char age[25];
    char id[25];
    char numcourses[25];
    char hours[25];
    char level[25];
    char major[25];
    char rate[25];
    char phone[25];
```

```
fstream stud;

//Name of the file.

stud.open("Final Project Group C.txt", ios::app);

cin.ignore();

cout<<"\nEnter ID number : ";

cin.getline(id,25);

cout<<"\nEnter first name : ";

cin.getline(name,25);

cout << "\nEnter last name : " ;

cin.getline(name1,25);

cout<<" \nEnter age : ";

cin.getline(age,25);

cout<<" \nEnter a phone number : ";

cin.getline(phone,25);

cout << "\nEnter student major : " ;

cin.getline(major,25);

cout << "\nEnter number of courses studied : " ;

cin.getline(numcourses,25);

cout << "\nEnter number of hours collected : " ;

cin.getline(hours,25);

cout << "\nEnter student level of 8 : " ;

cin.getline(level,25);

cout << "\nEnter the GPA of 5 : " ;

cin.getline(rate,25);
```

```

        stud<<
name<<'| '<<id<<'| '<<age<<'| '<<name1<<'| '<<major<<'| '<<numcour
ses<<'| '<<hours<<'| '<<level<<'| '<<rate<<'| '<<phone<<'\n';

        cout<< "\n\nInformation added successfully\n";

        stud.close();

}

```

```

void delete_student()// Function to delete_student data.

```

```

{

    fstream stud;
    fstream temp;

    //Name of the file.
    stud.open("Final Project Group C.txt",ios::in);
    temp.open("temp.txt",ios::out);

    //Considering the max length of data entered to be 25.
    char name [25];
    char name1 [25];
    char age[25];
    char id [25];
    char numcourses[25];
    char hours[25];
    char level[25];
    char major[25];
    char rate[25];
    char a[25];

```



```
char phone[25];  
cin.ignore();  
cout<<"\nEnter the ID number to delete record : ";  
cin.getline(a,25);  
int x=0;  
while(!stud.eof())  
{  
    stud.getline(name,25,'|');  
    stud.getline(id,25,'|');  
    stud.getline(age,25,'|');  
    stud.getline(name1,25,'|');  
    stud.getline(major,25,'|');  
    stud.getline(numcourses,25,'|');  
    stud.getline(hours,25,'|');  
    stud.getline(level,25,'|');  
    stud.getline(rate,25,'|');  
    stud.getline(phone,25);  
    if(strcmp(id,a)==0)  
    {  
        x=1 ;  
        cout<<"\nThe data has been deleted\n";  
        continue;  
    }  
    else  
    {
```

```

        temp<<
name<<' | '<<id<<' | '<<age<<' | '<<name1<<' | '<<major<<' | '<<numcour
ses<<' | '<<hours<<' | '<<level<<' | '<<rate<<' | '<<phone<<' \n';

    }

}

if(x==0)

{

    cout<<"\nNo student have same ID\n";

}

temp.close();

stud.close();


stud.open("Final Project Group C.txt",ios::out);
temp.open("temp.txt",ios::in);
while(!temp.eof())
{

    temp.getline(name,25,'|');
    temp.getline(id,25,'|');
    temp.getline(age,25,'|');
    temp.getline(name1,25,'|');
    temp.getline(major,25,'|');
    temp.getline(numcourses,25,'|');
    temp.getline(hours,25,'|');
    temp.getline(level,25,'|');
    temp.getline(rate,25,'|');
    temp.getline(phone,25);

```

```

        stud<<
name<<'| '<<id<<'| '<<age<<'| '<<name1<<'| '<<major<<'| '<<numcour
ses<<'| '<<hours<<'| '<<level<<'| '<<rate<<'| '<<phone<<'\n';

    }

    temp.close();

    stud.close();

    remove("temp.txt");

}

```

```

void find_student()// Function to find_student data by ID or
phone.

{

```

```

    fstream stud;

    stud.open("Final Project Group C.txt",ios::in);

    //Considering the max length of data entered to be 25.

    char name [25];

    char name1 [25];

    char age[25];

    char id [25];

    char numcourses[25];

    char hours[25];

    char level[25];

    char major[25];

    char rate[25];

    char a[25];

```

```
char phone[25];

int h;

cout<<"\nDo you want to search by ID or phone number ? ";

cout<<"\n1.ID\n2.Phone number";

cout<<"\nEnter option: ";

cin>>h;

if (h==1)

{

    cout<<"\nEnter the ID to search about it : ";

    cin.ignore();

    cin.getline(a,25);

    int x=0;

    while(!stud.eof())

    {

        stud.getline(name,25,'|');

        stud.getline(id,25,'|');

        stud.getline(age,25,'|');

        stud.getline(name1,25,'|');

        stud.getline(major,25,'|');

        stud.getline(numcourses,25,'|');

        stud.getline(hours,25,'|');

        stud.getline(level,25,'|');

        stud.getline(rate,25,'|');

        stud.getline(phone,25);

        if(strcmp(id, a)==0)

        {
```

```

        cout<< "\nID number : "<<id;

        cout<<"\nName : " << name<<" "<<name1;

        cout<<"\nAge : "<<age;

        cout<<"\nphone number : "<<phone;

        cout<<"\nMajor : "<<major;

        cout<<"\nNumber of courses studied :
"<<numcourses;

        cout<<"\nNumber of hours collected : "<<hours;

        cout<<"\nStudent level : "<<level;

        cout<<"\nStudent GPA : "<<rate;

        cout<<"\n\n";

        x=1;

        break;

    }

}

if(x==0)

{

    cout<<"\nNo student have same ID\n";

}

}

else if (h==2)

{

    cout<<"\nEnter the phone number to search about it :

";

    cin.ignore();

```

```

cin.getline(a,25);

int x=0;

while(!stud.eof())
{
    stud.getline(name,25,'|');
    stud.getline(id,25,'|');
    stud.getline(age,25,'|');
    stud.getline(name1,25,'|');
    stud.getline(major,25,'|');
    stud.getline(numcourses,25,'|');
    stud.getline(hours,25,'|');
    stud.getline(level,25,'|');
    stud.getline(rate,25,'|');
    stud.getline(phone,25);
    if(strcmp(phone, a)==0)
    {
        cout<< "\nID number : "<<id;
        cout<<"\nName : " << name<<" "<<name1;
        cout<<"\nAge : "<<age;
        cout<<"\nphone number : "<<phone;
        cout<<"\nMajor : "<<major;
        cout<<"\nNumber of courses studied : 
"<<numcourses;

        cout<<"\nNumber of hours collected : "<<hours;
        cout<<"\nStudent level : "<<level;
        cout<<"\nStudent GPA : "<<rate;
    }
}

```

```

        cout<<"\n\n";

        x=1;

        break;

    }

}

if(x==0)

{

    cout<<"\nNo student have same phone number\n";

}

}

else

{

    cout<<"\nWrong choice!!\n";

}

stud.close();

}

void update_student()

{

    fstream stud;

    fstream temp;

    stud.open("Final Project Group C.txt",ios::in);

    temp.open("temp.txt",ios::out);

```

```
//Considering the max length of data entered to be 25.
char name [25];
char name1 [25];
char age[25];
char id [25];
char numcourses[25];
char hours[25];
char level[25];
char major[25];
char rate[25];
char a[25];
char phone[25];
cin.ignore();
cout<<"\nEnter the ID number to update record : ";
cin.getline(a,25);
    int x=0;
while(!stud.eof())
{
    stud.getline(name,25,'|');
    stud.getline(id,25,'|');
    stud.getline(age,25,'|');
    stud.getline(name1,25,'|');
    stud.getline(major,25,'|');
    stud.getline(numcourses,25,'|');
    stud.getline(hours,25,'|');
    stud.getline(level,25,'|');
```



```
stud.getline(rate,25,'|');  
stud.getline(phone,25);  
if(strcmp(id,a)==0)  
{  
cout<<"\nEnter the new Information\n ";  
cout<<"\nEnter ID number : ";  
cin.getline(id,25);  
cout<<"\nEnter first name : ";  
cin.getline(name,25);  
cout << "\nEnter last name : " ;  
cin.getline(name1,25);  
cout<<" \nEnter age : ";  
cin.getline(age,25);  
cout<<" \nEnter a phone number : ";  
cin.getline(phone,25);  
cout << "\nEnter student major : " ;  
cin.getline(major,25);  
cout << "\nEnter number of courses studied : " ;  
cin.getline(numcourses,25);  
cout << "\nEnter number of hours collected : " ;  
cin.getline(hours,25);  
cout << "\nEnter student level of 8 : " ;  
cin.getline(level,25);  
cout << "\nEnter the GPA of 5 : " ;  
cin.getline(rate,25);
```

```

        temp<<
name<<'<<id<<'<<age<<'<<name1<<'<<major<<'<<numcour
ses<<'<<hours<<'<<level<<'<<rate<<'<<phone<<'\n';

        cout<<"\nThe data has been updated\n";

        x=1;

        }

        else

        {

                temp<<
name<<'<<id<<'<<age<<'<<name1<<'<<major<<'<<numcour
ses<<'<<hours<<'<<level<<'<<rate<<'<<phone<<'\n';

        }

    }

    if(x==0)

    {

            cout<<"\nNo student have same ID\n";

    }

    temp.close();

    stud.close();


    stud.open("Final Project Group C.txt",ios::out);
    temp.open("temp.txt",ios::in);
    while(!temp.eof())
    {

            temp.getline(name,25,'|');

            temp.getline(id,25,'|');

```

```

        temp.getline(age,25,'|');
        temp.getline(name1,25,'|');
        temp.getline(major,25,'|');
        temp.getline(numcourses,25,'|');
        temp.getline(hours,25,'|');
        temp.getline(level,25,'|');
        temp.getline(rate,25,'|');
        temp.getline(phone,25);

        stud<<
name<<'| '<<id<<'| '<<age<<'| '<<name1<<'| '<<major<<'| '<<numcour
ses<<'| '<<hours<<'| '<<level<<'| '<<rate<<'| '<<phone<<'\n';

    }

    temp.close();
    stud.close();
    remove("temp.txt");
}

int main()
{
    cout<<"--- STUDENT MANAGMENT SYSTEM ---\n\n";
    int option;
    while(option != 5)
    {
        //This prints out all the available options
        cout << "\nAvailable operations :\n";
        cout<< "\n1. Add New Students";
        cout<< " \n2. Delete student records";
    }
}

```

```
cout<<" \n3. Find Student details";
cout<<" \n4. update Student details ";
cout<< "\n5. Exit";
cout<<"\nEnter option: ";
cin >> option;
if(option == 1)
{
    add_student();
}
else if(option == 2)
{
    delete_student();
}
else if(option == 3)
{
    find_student();
}
else if(option == 4)
{
    update_student();
}
else if (option == 5)
{
    break;
}
else
```

```
{  
    cout<<"\nWrong choice!!\nPlease enter a correct  
number\n";  
}
```

```
}
```

```
}
```