COP 3223- Final Project

1. This Project can be completed in groups (max 4 per group) but submission onto Webcourses is individual. Once again, don’t copy anybody’s work nor give your code to anybody unless you **seriously** worked together on the project.
2. Please Submit **one** .c file. Your submission file must list the following in this order:

Names of students who worked in groups as a comment

include directives.

prototypes of functions.

body of main.

rest of the functions.

**Here is a sample:**

/\* NAME OF STUDENTS

**Note well that Jenna, Karim and Chris all submit the same project.c**

* Jenna Johnson
* Karim AbuZayd
* Chris Miller

\*/

//----------------------------------------------------

**#include<stdlib.h>**

**#include<stdio.h>**

**#include<string.h>**

//---------------------------

**int**  abc (\\* . . . \*/ );

**void** xyz(\\* . . . \*/ );

**int menu ();**

//---------------------------

**int** main() {

//…

**return 0;**

}

//---------------------------

**int**  abc (\\* parameters… \*/ ){

}

//---------------------------

**void** xyz(\\* parameters… \*/ ){

}

//---------------------------

**int menu (){**

**int** option;

**return** option;

**}**

**Project statement**

Please read this entire statement carefully before you start doing anything…

This project involves implementing a simple university personnel management program. The program deals with two different kinds of personnel: students and faculty. For each person, the program stores relevant information such as ***university ID***, ***name*** … etc. Different information is stored depending on the type of the person. For example, a student has a ***GPA***, while a faculty has a ***title*** (like **professor**) and ***department*** (like **math**).

Student is characterized with:

* Full name : String
* ID: String
* Gpa: float
* Number of credit hours currently taken: int

Faculty class has:

* Full name: String
* ID: String
* Department (**math**, **cs** or **science** are the only departments we are considering in this project)
* Rank (**professor** and **adjunct** are the only ranks we are considering in this project)

Students in this college pay **$236.45** per **one credit hour** in addition to a **$52 administrative fee**. Note that **students get a 25% off total payment if their gpa is greater or equal to 3.85**.

**Your code should be able to handle up to 100 students and up to 30 faculty members. You may use any data structure of your choosing to store the students/faculty information (arrays, linked lists…etc.)**

Please note well that:

1. Your code should run exactly as shown on the sample run below (However, the TA will not deduct points because you skipped two lines instead of three or your tuition invoice has 56 hyphens instead of 63).
2. When asked to enter the faculty’s department, **math**, **mAth**, **Math** … and **MATH** are considered to be the same. However, if the user enters ***Mathematics*** *or* ***Math department***, then that is an invalid entry. Consider these departments only: **math**, **cs** or **science**. As for the rank of a faculty, consider these ranks only: **professor** or **adjunct**.
3. All string entries (names of people, department , ranks…) are stored in capital. For example, if the user enters **math**, then your code converts it to **MATH**
4. The university ID must be of the same format as the UCF’s nid with no spaces in between(**letter**letter**digit**digit**digit**digit**digit**digit). But ab123456 is the same as aB123456, Ab123456 or AB123456
5. You may assume that the user enters one character when asked to enter a menu option.
6. The program terminates if the user fails to enter the correct information after trying three times. For example:

Enter the faculty’s info:

Name of the faculty: **Edward Saeed**

ID: **gz789449**

Rank: **Instructor**

Sorry entered rank (Instructor) is invalid. Try again.

Rank: **Assistant Prof**

Sorry entered rank (Assistant Prof) is invalid. Try again.

Rank: **Prof**

You have tried too many times…

Thank you for using PerPro. Goodbye!

**Sample Run**

Welcome to PerPro

Choose one of the options:

1. Add a new faculty member
2. Add a new student
3. Print tuition invoice for a student
4. Print information of a faculty
5. Exit Program

Enter your selection: **2**

Enter the student’s info:

Name of Student: **Julia Alvarez**

ID: **ju125444**

Gpa: **3.26**

Credit hours: **7**

Thanks!

Choose one of the options:

1. Add a new faculty member
2. Add a new student
3. Print tuition invoice for a student
4. Print information of a faculty
5. Exit Program

Enter your selection: **2**

Enter the student’s info:

Name of Student: **Matt Jones**

ID: **ma025888**

Gpa: **3.78**

Credit hours: **0**

Thanks!

Choose one of the options:

1. Add a new Faculty member
2. Add a new student
3. Print tuition invoice for a student
4. Print information of a faculty
5. Exit Program

Enter your selection: **a**

Invalid entry- please try again.

Enter your selection: **1**

Enter the faculty’s info:

Name of the faculty: **John Miller**

ID: **jo789444**

Rank: **Instructor**

Sorry entered rank (Instructor) is invalid. Try again.

Rank: **ProfeSSor**

Department: **Science**

Thanks!

Choose one of the options:

1. Add a new faculty member
2. Add a new student
3. Print tuition invoice for a student
4. Print information of a faculty
5. Exit Program

Enter your selection: **3**

Enter the student’s id: **ju125444**

Here is the tuition invoice for Julia Alvarez :

---------------------------------------------------------------------------

JULIA ALVAREZ JU125444

Credit Hours:7 ($236.45/credit hour)

Fees: $52

Total payment: $1,707.15 ($0 discount applied)

---------------------------------------------------------------------------

Choose one of the options:

1. Add a new Faculty member
2. Add a new Student
3. Print tuition invoice for a student
4. Print information of a faculty
5. Exit Program

Enter your selection: **3**

Enter the student’s id: **er85666**

Sorry-student not found!

Choose one of the options:

1. Add a new faculty member
2. Add a new student
3. Print tuition invoice for a student
4. Print information of a faculty
5. Exit Program

Enter your selection: **4**

Enter the faculty’s id: **jo857888**

Sorry jo8578 doesn’t exist

Choose one of the options:

1. Add a new faculty member
2. Add a new student
3. Print tuition invoice for a student
4. Print information of a faculty
5. Exit Program

Enter your selection: **4**

Enter the faculty’s id: **JO789444**

Faculty found:

---------------------------------------------------------------------------

JOHN MILLER

SCIENCE department, PROFESSOR

---------------------------------------------------------------------------

Choose one of the options:

1. Add a new faculty member
2. Add a new student
3. Print tuition invoice for a student
4. Print information of a faculty
5. Exit Program

Enter your selection: **2**

Enter the student’s info:

Name of Student: **Hassan Mehdi**

ID: **xy025880**

Gpa: **4.00**

Credit hours: **6**

Thanks!

Choose one of the options:

1. Add a new faculty member
2. Add a new student
3. Print tuition invoice for a student
4. Print information of a faculty
5. Exit Program

Enter your selection: **5**

Would you like to print the final report (Y/N): **y**

Enter

N or n to sort the faculty by name

D or d to sort the faculty by department

R or r to sort the faculty by rank

Make your sort selection: **r**

Enter

N or n to sort the students by name

G or g to sort the students by gpa

Make your sort selection: **N**

Here is your report….

------ L I S T O F F A C U L T Y -----

JOHN MILLER – SCIENCE

------ L I S T O F S T D U E N T S -----

HASSAM MEHDI (GPA = 4.00)

JULIA ALVAREZ (GPA = 3.26)

MATT JONES (GPA = 3.78)

Thank you for using PerPro. Goodbye!