
CSC 352/452: DATABASE PROGRAMMING

ASSIGNMENT # 1 (100 Points) **Due Date 7/23 11:59pm**

Review and Refresh

CONNECT into ORACLE via ORACLE Developer or SQL*PLUS, and perform the following:

Part a: (25 Points)

Create the following tables by using a script file named *prog1a.sql*:

STUDENT(student_id, std_name, home_phone, total_credits, gpa, *advisor_id*)

COURSE(course#, credit_hours, time, location, *faculty_id*)

ENROLLMENT(*student_id*, *course#*, grade)

FACULTY(faculty_id, fac_name, office, salary)

where:

student_id, std_name, advisor_id(faculty_id), office, location and fac_name are strings of maximum length of 25 characters (VARCHAR)

home_phone, and course# are strings of size 12 characters (CHAR)

total_credits, time and credit_hours are integers (NUMBER)

grade, gpa and salary are real numbers, with a maximum decimal of 2 (NUMBER)

Primary keys are all underlined, Foreign keys are in italics, and faculty_id & advisor_id are the same.

Test/run your script file in Oracle Developer or SQL*Plus command line (please make sure you downloaded the client version based on the Oracle Instructions pdf file posted on D2L) as follows:

```
% sqlplus                               /* get into sqlplus */
SQL> start prog1a (or @prog1a) /* execute prog1a */
```

Part b: (25 Points)

Populate each table with at least 15 records of your choice by using a script file named *prog1b.sql*. The ENROLLMENT table, however, should be populated with at least 30 records of your choice.

Note: You may want to ensure that the queries in Part (4) of this assignment are met, when you populate these tables.

Test/run your script file as follows:

```
% sqlplus                               /* get into sqlplus */
SQL> start prog1b (or @prog1b) /* execute prog1b */
```

Part c: (25 Points)

Display the structure and the contents of each of the above tables by using a script file named *prog1c.sql*.

Test/run your script file as follows:

```
% sqlplus                               /* get into sqlplus */
SQL> start prog1c (or @prog1c) /* execute prog1c */
```

Part d: (25 Points)

Issue the SQL statements necessary to answer the following queries:

- (a) For each faculty list the faculty's name and the names of his/her student advisees
- (b) Give the names and phone numbers of students who are not enrolled in any courses
- (c) Give the student's name and the GPA for the student with the highest GPA than all colleagues with a similar (exact) total number of credit hours
- (d) For each student name, list the course numbers(s), the student took, where the student obtained the lowest grade
- (e) Give the names of faculty who do not advise any students

Create a script file named *prog1d.sql* for all the above queries.

Test/run your script file as follows:

```
% sqlplus                               /* get into sqlplus */
SQL> start prog1d (or @prog1d) /* execute prog1d */
```

Note: Please ensure that you complete all four parts of this assignment and submit a file for each part. To organize your submission, please create a folder named "**LastName HW1**" on your computer. Within this folder, include all the solution files for each question/part. For example, save the script files prog1a.sql, prog1b.sql, prog1c.sql, and prog1d.sql in the "**LastName HW1**" folder.

Once you have saved all the necessary files, zip the folder to create a compressed file. Make sure to name the zipped file "**LastName HW1**". Finally, submit the zipped file to the designated location on your course website, specifically the D2L/Assignment 1 Submission page.

For instance, let's say your last name is Smith. To complete assignment #1, follow these steps:

1. Create a folder named "**Smith HW1**" under your home directory (e.g., C:\Smith HW1).
2. Save the script files [prog1a.sql](#), [prog1b.sql](#), [prog1c.sql](#), and [prog1d.sql](#) in the "Smith HW1" folder.
3. Compress the folder into a zip file named "**Smith HW1.zip**".
4. Submit the zipped file to the D2L/Assignment 1 Submission page on your course website.

Repeat these steps for each assignment, ensuring that you organize your files in separate folders and submit them accordingly.

SUBMIT YOUR HW1 FOLDER AS ZIP FILE TO YOUR D2L ASSIGNMENT 1 SUBMISSION LINK FOR GRADING. Make sure only one copy is submitted.