**CSCI 4125/5125 Course Project**

**Data Models and Database Systems**

**Spring 2024**

**Course Project**

**Phase 4: Introductory SQL, DDL & Inserts (2/1)**

**Due: Monday, 2/26 @ 11:59pm**

**Reading:** Silberschatz Chapters 3.1 – 3.4, 3.6 – 3.9, 4.3 – 4.5

**Submission Guidelines:**

1. This assignment is worth 30 points for all students.

2. It is your responsibility to make sure all files are readable and submitted on time.

**Submission:**

- Task 1 requires you to submit a single .sql file worth 15 points.

- Task 2 requires you submit a screenshot worth 15 points.

**Task 1. SQL DDL (15 points)**

Write a SQL DDL script to create your tables from Phase 3. Use the following guidelines and relational schema:

* At the top of your script include a drop table command for each of your tables. Note that you must pay attention to referential integrity when considering the order to drop tables.
* Column names should match the attributes in the relational schema. This will allow for consistency in our queries later.
* Columns must use reasonable domains based on the data in the included .txt files.
* All primary keys must be declared.
* All foreign keys must be declared.
* Run your SQL script and debug any errors.
* **Submit:** a single .sql file named employees\_schema.sql.



**Task 2. Populating the database (15 points)**

Using your Java program from Phase 3, generate INSERT statements for the eight .txt files included with this document. You should generate a total of eight SQL scripts containing INSERT statements. Use the following guidelines to submit your work:

* Data types must be properly formatted, e.g., strings must use single quotes, dates must use the correct format.
* Some strings might contain a single quote. Make sure the single quote appears in the value. This can be easily addressed with the replace() method.
* Each script should include a commit (i.e., “commit;”) at the end of the file. You can modify your Java program to simply write that before you close the outfile.
* Name each file [table name].sql.
* Run each script in SQL Developer. Remember that you can run SQL scripts using **@[path]\[file].sql** or you can copy-paste the statements into SQL Developer.
* You will need to run the INSERT’s in the proper order that does not violate referential integrity.
* Read the output that is generated. If there are any errors, it is up to you to fix them. Errors to watch out for include, improper syntax, violating domain constraints, violating primary key constraints, and violating referential integrity.
* **Submit:** Run the following query in SQL Developer using the “Run Script” or F5 option. Take a screenshot that includes: your connection name, query, and output. An example is below. Note that this query verifies the number of records loaded into your tables.

**SELECT 'Employee: ' || COUNT(\*) AS Cnt FROM Employee**

**UNION**

**SELECT 'Position: ' || COUNT(\*) AS Cnt FROM Position**

**UNION**

**SELECT 'Course: ' || COUNT(\*) AS Cnt FROM Course**

**UNION**

**SELECT 'Address: ' || COUNT(\*) AS Cnt FROM Address**

**UNION**

**SELECT 'Timecard: ' || COUNT(\*) AS Cnt FROM Timecard**

**UNION**

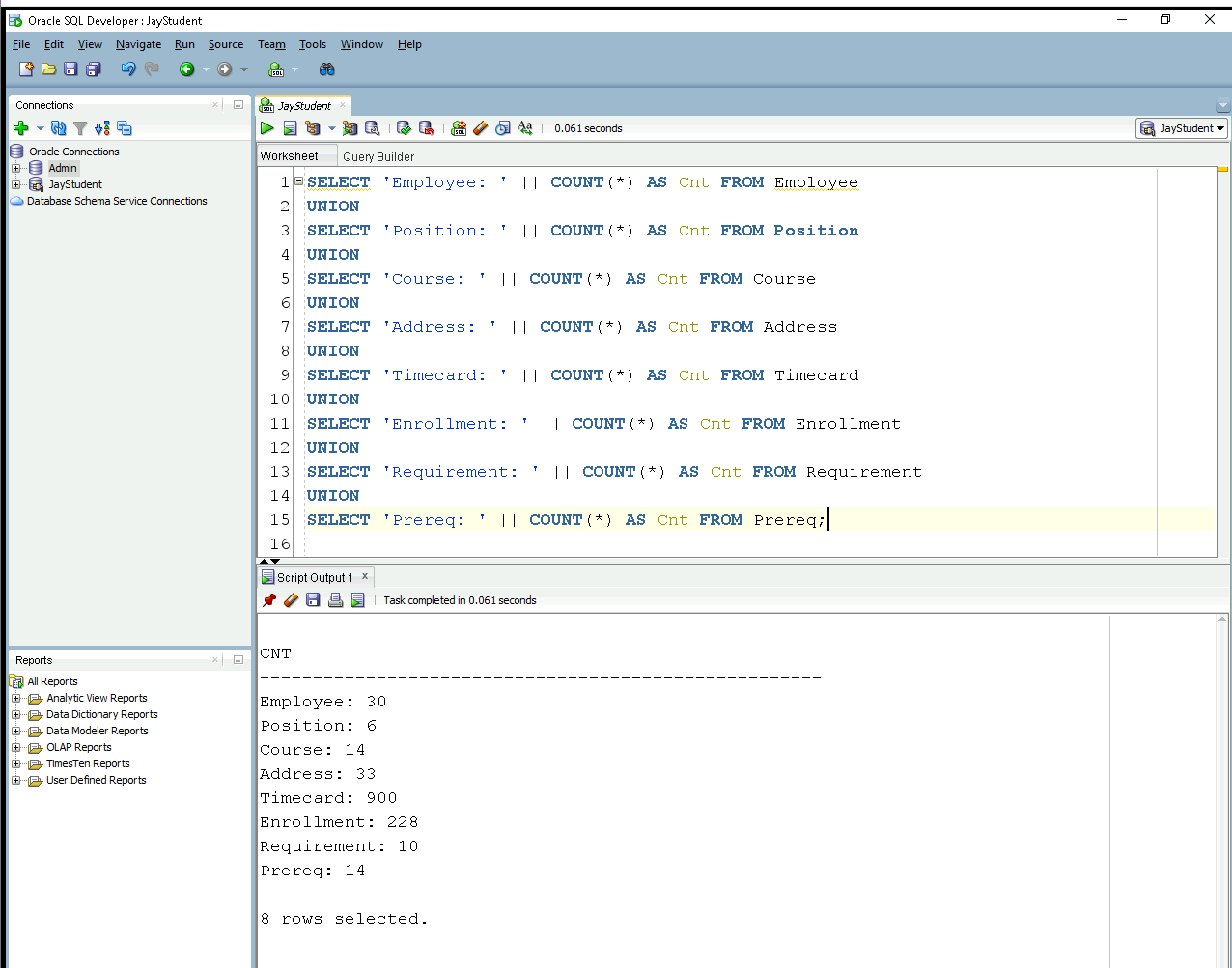
**SELECT 'Enrollment: ' || COUNT(\*) AS Cnt FROM Enrollment**

**UNION**

**SELECT 'Requirement: ' || COUNT(\*) AS Cnt FROM Requirement**

**UNION**

**SELECT 'Prereq: ' || COUNT(\*) AS Cnt FROM Prereq;**

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