

Assignment 3 - Constraints (30 points)

Due Date: Wednesday, February 10, 2016 11:55 PM

Objectives:

The purpose of this assignment is to understand and be able to create tables and design integrity constraints. In this assignment, you will need to create a database, insert data into the database, and execute queries.

The Art Course Database

Consider the following art course relational schema in Figure 1, which is used by an art school that offers art courses to the public.

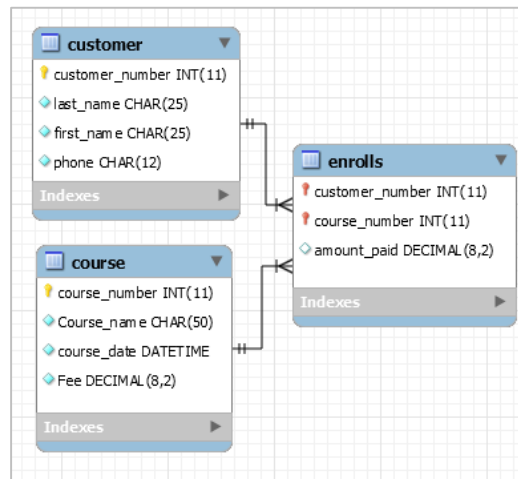


Figure 1

The following is a set of tables for the art course database:

Customer (customer number, last_name, first_name, Phone)

Course (course number, course_name, course_date, fee)

Enrolls (customer number, course number, amount_paid)

The schema has the following two foreign keys:

1. The attribute customer_number of relation Enrolls that references relation Customer.
2. The attribute course_number in relation Enrolls that references relation Course.

In the Enrolls table, the customer_number and course_number columns are the foreign keys.

No customer data are ever deleted so there is no need to cascade deletions. Courses can be deleted. If there are enrolls entries for a deleted class, they should also be deleted.

customer_number	last_name	first_name	phone
1	Johnson	Aniel	205-567-1234
2	Green	Robin	415-678-9012
3	Jackson	Charles	305-789-3456
4	Pearson	Jeffrey	205-567-2345
5	Scars	Miguel	360-789-4567
6	Kyle	Leah	415-678-7890
7	Myers	Lynda	360-789-5678

Customer Table

customer_number	course_number	amount_paid
1	1	250.00
1	3	350.00
2	2	350.00
3	1	500.00
4	1	500.00
5	2	350.00
6	5	250.00
7	4	0.00

Enrolls Table

course_number	Course_name	course_date	Fee
1	Adv Pastels	2015-10-01 00:00:00	500.00
2	Beg Oils	2015-09-15 00:00:00	350.00
3	Int Pastels	2015-03-15 00:00:00	350.00
4	Beg Oils	2015-10-15 00:00:00	350.00
5	Adv Pastels	2015-11-15 00:00:00	500.00

Course Table

- Query 1:** Create the *artcourse* database.
Change to the *artcourse* database.
Include a statement to drop the database if it already exists.
- Query 2:** Write SQL Statements to
- Create the Customer table
 - Create the Course table
 - Create the Enrolls table
- customer_number and course_number are surrogate keys.
Specify the InnoDB storage engine for all tables.
- Query 3:** Run the SQL script to populate the tables; use the file *insert_data_artcourse.sql*.
- Query 4:** Run the following queries:
`SELECT * FROM customer;`
`SELECT * FROM course;`
`SELECT * FROM enrolls;`
- Query 5:** Write an ALTER TABLE statement that add a date_added column for the date and time that the Course was added to the database to the Course table created in query 2.
- Query 6:** Write an ALTER TABLE statement that modifies the Customer table created in query 2 so the first_name column cannot store NULL values and can store a maximum of 20 characters.
- Query 7:** Use the DESC command to describe the Course table.
Use the DESC command to describe the Customer table.
Use the DESC command to describe the Enrolls table.

Submission

- You will need to label your assignment with your first initial, last name, and the name of the assignment.
- Zip the files to upload to Insight (hibrahim_assignment3.zip).
- Submit the zipped file containing the script and output TXT via Insight.
- Remember to include the query number as a comment at each step.
- Read your output TXT file before you turn it in.