

Department of Computer Science  
New Mexico State University  
C S 482/502 Database Management Systems I

## Project – Part 1

### Requirements:

- You should form a group with 2 or 3 people to work on this part of the project. You can change team members when you work on the other two parts of the project. Once you form a team for this project part, you cannot kick out your team member (in particular at the last minute). If you cannot work with your team member, you will lose points (denoted below).
- You need to finish the tasks stated in three parts. NOTE that the due dates of the three parts are different.

### Scenario:

“ABC media” has a number of digital displays, which are placed in bars and restaurants. Clients can purchase airtime packages for advertising using these digital displays. “ABC media” has hired you as a database administrator to manage the database which store the advertisement related information.

Assume that “ABC media” has decided to have the relational schema for their database.

1. **Video** (**videoCode**: integer, videoLength: integer)
2. **Model** (**modelNo**: char(10), width: numeric (6,2), height: numeric (6,2), weight: numeric (6,2), depth: numeric (6,2), screenSize: numeric (6,2))
3. **Site** (**siteCode**: integer, type: varchar (16), address: varchar(100), phone: varchar(16))
4. **DigitalDisplay** (**serialNo**: char(10), schedulerSystem: char(10), modelNo: char(10))  
Foreign key: **modelNo** references **Model** (**modelNo**)
5. **Client** (**clientId**: integer, name: varchar (40), phone: varchar (16), address: varchar (100))
6. **TechnicalSupport** (**empld**: integer, name: varchar (40), gender: char (1))
7. **Administrator** (**empld**: integer, name: varchar (40), gender: char (1))
8. **Salesman** (**empld**: integer, name: varchar (40), gender: char (1))
9. **AirtimePackage** (**packageId**: integer, class: varchar (16), startDate: date, endDate: date, frequency: integer, videoCode: integer)
10. **AdmWorkHours** (**empld**: integer, **day**: date, hours: numeric (4,2))  
Foreign key: **empld** references **Administrator** (**empld**)
11. **Broadcasts** (**videoCode**: integer, **siteCode**: integer)  
Foreign key: **videoCode** references **Video** (**videoCode**)  
Foreign key: **siteCode** references **Site** (**siteCode**)
12. **Administers** (**empld**: integer, **siteCode**: integer)  
Foreign key: **empld** references **Administrator** (**empld**)  
Foreign key: **siteCode** references **Site** (**siteCode**)
13. **Specializes** (**empld**: integer, **modelNo**: char(10))  
Foreign key: **empld** references **TechnicalSupport** (**empld**)  
Foreign key: **modelNo** references **Model** (**modelNo**)
14. **Purchases** (**clientId**: integer, **empld**: integer, **packageId**: integer, commissionRate: numeric (4,2))  
Foreign key: **clientId** references **Client** (**clientId**)  
Foreign key: **empld** references **Salesman** (**empld**)  
Foreign key: **packageId** references **AirtimePackage** (**packageId**)
15. **Locates** (**serialNo**: char (10), **siteCode**: integer)  
Foreign key: **serialNo** references **DigitalDisplay** (**serialNo**)

Foreign key: `siteCode` references `Site (siteCode)`

Given the above database schema and the following constraints:

- ✓ A display site can only be a bar or a restaurant (i.e., the type for Site can only be 'bar' or 'restaurant').
- ✓ The scheduler system of a digital display can only be 'Random', 'Smart' or 'Virtue'.
- ✓ The class of an airtime package can only be 'economy', 'whole day' or 'golden hours'.

## Part 1: Create a database using MySQL

### Objectives:

- Write DDL statements to create tables and constraints.
- Write DML statements to insert data to a database.
- Run SQL statements from a script file with batch of SQL statements.
- Practice teamwork skills.

### Tasks:

1. (75 points) Implement the database using MySQL. Write proper SQL statements to create the required tables in the database and to set all the required constraints (e.g., primary key, foreign key, and value constraints). Put all the SQL statements to "**crtddb.sql**".
2. (15 points) Insert into each table 3-5 records. Put all the insertion SQL statements to "**insddb.sql**".
3. (5 points) Create a README.txt to write down the work allocation of the different team members.
4. (5 points) Each team member need to create a PeerEvaluation\_<yourname>.txt to include a peer evaluation to your team members for this part of the project. Your peer evaluation should include a score (1 to 5, with 1 being poorest and 5 being best) and a justification for your score. The justification does not need to be long.

**Note:** All your submitted SQL statements should run correctly (syntactically and semantically) in the MySQL server dbclass.cs.nmsu.edu. If an SQL statement cannot be run in the MySQL server, that SQL statement is graded as ZERO (i.e., no partial score).

**Submission:** You have to submit your assignment electronically (through Canvas). Printed copies are not accepted. See course syllabus for policies on late submission and plagiarism.

- Please create a zip file to contain both .sql files and the readme file, name the zip file "p1-(your last names).zip". For each team, only submit one copy of the zip file. Each group just needs to submit one copy of your program. **Points will be deducted if multiple copies are submitted.**
- Each team member should submit your own PeerEvaluation\_<yourname>.txt so that this information is confidential to your team members.