University of Central Florida

CGS 2545 Database Concepts

Assignment 3
Airline Database Project
Due, Friday, September 29, 2023 for maximum 100%
Saturday, September 30, 2023 for maximum 90%
Sunday, October 1 2023 for maximum 80%
Monday, October 2, 2023 for maximum 70%

Deliverables

To complete this assignment, submit the following **three** files to Webcourses:

1. An SQL file (i.e. save the file with file extension **.sql**) containing the SQL written to perform the tasks. Example: Assignment2Code.sql
2. An exported SQL file using MySQL Workbench Data Export option. The file name should be the following format: **FirstnameLastnameAssignment#.sql**. Example: KarinMarkleAssignment2.sql
3. An ER Diagram generated by MySQL Workbench. The file name should be the following format: **FirstnameLastnameAssignment#ERDiagram.mwb**. Example: KarinMarkleAssignment2ERDiagram.mwb

Assignment Scope

1. Use database **airline**.
2. Create tables in the database.
3. Alter tables.
4. Insert data into tables.
5. Third normal form (3NF).
6. Generate an ER diagram.

References

1. 10_SQL Select Database.pptx
2. 11_SQL Create Table.pptx
3. 13_SQL Insert Query.pptx
4. 14_SQL Select Query.pptx
5. 15_SQL Where Clause.pptx
6. 23_SQL Distinct Keyword.pptx
7. 25_AdvancedSQL Constraints.pptx
8. 31_AdvancedSQL Alter Command.pptx

To access the DBMS

1. Launch the MySQL Command Line Client executable or MySQL Workbench
2. Login in using the password set during installation “cgs2545” or your chosen password.

Tasks

Query Description
1. Change to use the database **airline**
2. Create a table named **cityState** with the following attributes, data types, and constraints: a. city, variable character, 90 characters, not null b. state, character, 2 characters, not null c. zipCode, character, 5 characters, not null, unique d. primary key is the zipCode field
3. Insert into table **cityState** columns **city, state** and **zipCode** distinct values from columns **city, state** and **zipCode** from table **employee** where **zipCode** is not in **cityState**
4. Insert into table **cityState** columns **city, state** and **zipCode** distinct values from columns **city, state** and **zipCode** from table **passenger** where **zipCode** is not in **cityState**
5. Alter table **employee** so that column **zipCode** is a foreign key to table **cityState**, column **zipCode**
6. Alter table **employee** to drop column **city** and **state**
7. Alter table **passenger** so that column **zipCode** is a foreign key to table **cityState**, column **zipCode**
8. Alter table **passenger** to drop column **city** and **state**
9. Create table named **employeePosition** with the following attributes, data types, and constraints: a. employeeId, integer, not null, unique b. positionId, integer, not null c. primary key is fields **employeeId** and **positionId** d. foreign key on field **employeeId**, references table **employee**, column **id** e. foreign key on field **positionId**, references table **position**, column **id**
10. Insert into table **employeePosition** data from file **employeePosition.sql**
11. Generate an ER Diagram using MySQL Workbench, save as a .mwb file
12. Export database cruise using MySQL Workbench, save as a .sql file
13. Provide written source code in a .sql file

Test Cases	
Test Case 1	**select * from employee** should look like Figure 1
Test Case 2	**select * from passenger** should look like Figure 2
Test Case 3	**select * from cityState** should look like Figure 3
Test Case 4	**desc employee** should look like Figure 4
Test Case 5	**desc passenger** should look like Figure 5
Test Case 6	**select * from employeePosition** should look similar to Figure 6
Test Case 7	**testCaseCode.sql** should look like Figure 7
Test Case 8	ER Diagram should look like Figure 8

```
mysql> select * from employee;
+----+-----------+----------+------------------------+---------+------------+--------------------+
| ID | firstname | lastname | address                | zipCode | phone      | email              |
+----+-----------+----------+------------------------+---------+------------+--------------------+
|  1 | Paris     | Lindsey  | 763 West Mulberry St   | 29710   | 2025550132 | plindsey@isp.com   |
|  2 | Umaiza    | Melia    | 545 Ohio Ave           | 29710   | 2025550135 | umelia@isp.com     |
|  3 | Nico      | Prince   | 20 Middle River Street | 44094   | 2025550137 | nprince@isp.com    |
|  4 | Javan     | Rennie   | 8112 North Country St  | 44094   | 2025550139 | jrennie@isp.com    |
|  5 | Ali       | Waters   | 83 Rockland Lane       | 44094   | 2025550144 | awaters@isp.com    |
|  6 | JohnPaul  | Clarke   | 1 Riverside Lane       | 44094   | 2025550153 | jpcClarke@isp.com  |
|  7 | Dane      | Kaiser   | 694 Wall Road          | 44094   | 2025550155 | kdaiser@isp.com    |
|  8 | Hammad    | Newman   | 9970 State Court       | 30096   | 2025550157 | hnewman@isp.com    |
|  9 | Maha      | Guthrie  | 54 Woodsman Drive      | 30096   | 2025550161 | mguthrie@isp.com   |
| 10 | Tulisa    | Roberts  | 7174 Studebaker Street | 30096   | 2025550163 | troberts@isp.com   |
+----+-----------+----------+------------------------+---------+------------+--------------------+
10 rows in set (0.00 sec)
```

Figure 1 Table employee

```
mysql> select * from passenger;
+----+-----------+-----------+--------------------------------+---------+------------+--------------------+
| ID | firstName | lastName  | address                        | zipCode | phone      | email              |
+----+-----------+-----------+--------------------------------+---------+------------+--------------------+
|  1 | Igor      | Prince    | 12 Creekside St                | 92647   | 2025550199 | iprince@isp.com    |
|  2 | Dante     | Rennie    | 137 Wall St                    | 38117   | 2225550112 | drennie@isp.com    |
|  3 | Thomas    | Waters    | 411 Shirley St                 | 24210   | 2225550115 | twaters@isp.com    |
|  4 | Avaya     | Clarke    | 7771 Border Court              | 92078   | 2225550119 | aclarke@isp.com    |
|  5 | Haniya    | Kaiser    | 6 South Sulphur Springs Street | 70121   | 2225550121 | hkaiser@isp.com    |
|  6 | Victor    | Newman    | 942 New Saddle Drive           | 70433   | 2225550122 | vnewman@isp.com    |
|  7 | Douglas   | Guthrie   | 9 Wrangler Ave                 | 91764   | 2225550124 | dguthrie@isp.com   |
|  8 | Brian     | Roberts   | 7319 S. Greenview Drive        | 44223   | 2225550125 | broberts@isp.com   |
|  9 | Paris     | Solis     | 763 West Mulberry St           | 49016   | 2025550132 | psolis@isp.com     |
| 10 | Umaiza    | Heath     | 545 Ohio Ave                   | 85260   | 2025550135 | uheath@isp.com     |
| 11 | Yvonne    | Goodman   | 12 Creekside St                | 37205   | 2025550109 | ygoodman@isp.com   |
| 12 | Dante     | Mackenzie | 137 Wall St                    | 37205   | 2025550112 | dmackenzie@isp.com |
| 13 | Alysha    | Rollins   | 411 Shirley St                 | 37205   | 2025550115 | arollins@isp.com   |
| 14 | Avaya     | Gonzalez  | 7771 Border Court              | 37205   | 2025550119 | agonzalez@isp.com  |
| 15 | Haniya    | Kelly     | 6 South Sulphur Springs Street | 37205   | 2025550121 | hkelly@isp.com     |
| 16 | Nathalie  | Chambers  | 942 New Saddle Drive           | 29710   | 2025550122 | nchambers@isp.com  |
| 17 | Dante     | Rollins   | 9 Wrangler Ave                 | 29710   | 2025550124 | drollins@isp.com   |
| 18 | Beverley  | Mckee     | 7319 S. Greenview Drive        | 29710   | 2025550125 | bmckee@isp.com     |
| 19 | Robin     | Solis     | 8474 Wentworth Street          | 30096   | 2025550164 | rsolis@isp.com     |
| 20 | Kavita    | Heath     | 796 Hartford St                | 30096   | 2025550165 | kheath@isp.com     |
| 21 | Meera     | White     | 484 Bridge St                  | 08854   | 2025550166 | mwhite@isp.com     |
| 22 | Bradlee   | Esparza   | 7031 Gainsway St               | 08854   | 2025550173 | besparza@isp.com   |
| 23 | Leilani   | Leonard   | 37 Monroe Street               | 08854   | 2025550175 | lleonard@isp.com   |
| 24 | Stefanie  | Brook     | 7990 West Surrey St            | 08854   | 2025550179 | sbrook@isp.com     |
| 25 | Grover    | Squires   | 7618 Madison Court             | 08854   | 2025550180 | gsquires@isp.com   |
| 26 | Jonathan  | Kumar     | 25 Annadale Court              | 33458   | 2025550182 | jkumar@isp.com     |
| 27 | Angus     | Neville   | 9841 Smith Drive               | 33458   | 2025550187 | aneville@isp.com   |
| 28 | Uzair     | Sparrow   | 7999 Hall Street               | 33458   | 2025550188 | usparrow@isp.com   |
| 29 | Amari     | Currie    | 8411 Pleasant St               | 33458   | 2025550194 | acurrie@isp.com    |
| 30 | Imaani    | Wallace   | 33 Pierce Rd                   | 33458   | 2025550195 | iwallace@isp.com   |
| 31 | Efe       | House     | 97 High Point Street           | 20706   | 2025550196 | ehouse@isp.com     |
| 32 | Atticus   | Atkinson  | 66 Harrison Dr                 | 20706   | 2025550197 | aatkinson@isp.com  |
| 33 | Michelle  | Ramirez   | 370 Hill Field Ave             | 20706   | 2025550198 | mramirez@isp.com   |
| 34 | Remy      | Hassan    | 249 Devon Lane                 | 20706   | 2225550199 | rhassan@isp.com    |
| 35 | Jordana   | Beck      | 7911 Carson Lane               | 20706   | 2025550200 | jbeck@isp.com      |
+----+-----------+-----------+--------------------------------+---------+------------+--------------------+
35 rows in set (0.00 sec)
```

Figure 2 Table passenger

```
mysql> select * from citystate;
+------------------+-------+---------+
| city             | state | zipCode |
+------------------+-------+---------+
| Piscataway       | NJ    | 08854   |
| Glenarden        | MD    | 20706   |
| Abingdon         | VA    | 24210   |
| Clover           | SC    | 29710   |
| Duluth           | GA    | 30096   |
| Jupiter          | FL    | 33458   |
| Nashville        | TN    | 37205   |
| Memphis          | TN    | 38117   |
| Willoughby       | OH    | 44094   |
| Cuyahoga Falls   | OH    | 44223   |
| Battle Creek     | MI    | 49016   |
| Jefferson        | LA    | 70121   |
| Covington        | LA    | 70433   |
| Scottsdale       | AZ    | 85260   |
| Ontario          | CA    | 91764   |
| San Marcos       | CA    | 92078   |
| Huntington Beach | CA    | 92647   |
+------------------+-------+---------+
17 rows in set (0.00 sec)
```

Figure 3 Table cityState

```
mysql> desc employee;
+-----------+-------------+------+-----+---------+----------------+
| Field     | Type        | Null | Key | Default | Extra          |
+-----------+-------------+------+-----+---------+----------------+
| ID        | int         | NO   | PRI | NULL    | auto_increment |
| firstname | varchar(50) | NO   |     | NULL    |                |
| lastname  | varchar(50) | NO   |     | NULL    |                |
| address   | varchar(90) | NO   |     | NULL    |                |
| zipCode   | char(5)     | NO   | MUL | NULL    |                |
| phone     | char(10)    | NO   | UNI | NULL    |                |
| email     | varchar(90) | NO   | UNI | NULL    |                |
+-----------+-------------+------+-----+---------+----------------+
7 rows in set (0.03 sec)
```

Figure 4 Table employee

```
mysql> desc passenger;
+-----------+-------------+------+-----+---------+----------------+
| Field     | Type        | Null | Key | Default | Extra          |
+-----------+-------------+------+-----+---------+----------------+
| ID        | int         | NO   | PRI | NULL    | auto_increment |
| firstName | varchar(50) | NO   |     | NULL    |                |
| lastName  | varchar(50) | NO   |     | NULL    |                |
| address   | varchar(90) | NO   |     | NULL    |                |
| zipCode   | char(5)     | NO   | MUL | NULL    |                |
| phone     | char(10)    | NO   | UNI | NULL    |                |
| email     | varchar(90) | NO   | UNI | NULL    |                |
+-----------+-------------+------+-----+---------+----------------+
7 rows in set (0.00 sec)
```

Figure 5 Table passenger

```
mysql> select * from employeeposition;
+------------+------------+
| employeeId | positionId |
+------------+------------+
|          1 |         18 |
|          2 |         19 |
|          3 |         20 |
|          4 |         23 |
|          5 |         24 |
|          6 |         28 |
|          7 |         31 |
|          8 |         32 |
|          9 |         32 |
|         10 |         33 |
+------------+------------+
10 rows in set (0.00 sec)
```

Figure 6 Table employeePosition

```
mysql> SELECT e.firstName AS "Employee First Name" , e.lastName AS "Employee Last Name", e.phone AS "Employee Phone", p.description AS "Employee
Position"
    ->   FROM employee e, position p, employeePosition ep
    ->  WHERE ep.employeeId = e.id
    ->    AND ep.positionId = p.id;
+--------------------+-------------------+----------------+---------------------+
| Employee First Name | Employee Last Name | Employee Phone | Employee Position    |
+--------------------+-------------------+----------------+---------------------+
| Paris              | Lindsey           | 2025550132     | Pilot               |
| Umaiza             | Melia             | 2025550135     | Co-pilot            |
| Nico               | Prince            | 2025550137     | Flight Attendant    |
| Javan              | Rennie            | 2025550139     | Aircraft Mechanic   |
| Ali                | Waters            | 2025550144     | Airport Police      |
| JohnPaul           | Clarke            | 2025550153     | Airline Ticket Agent |
| Dane               | Kaiser            | 2025550155     | Meteorologist       |
| Hammad             | Newman            | 2025550157     | Baggage Handler     |
| Maha               | Guthrie           | 2025550161     | Baggage Handler     |
| Tulisa             | Roberts           | 2025550163     | Administrative Jobs |
+--------------------+-------------------+----------------+---------------------+
10 rows in set (0.00 sec)
```

Figure 7 testCaseCode.sql

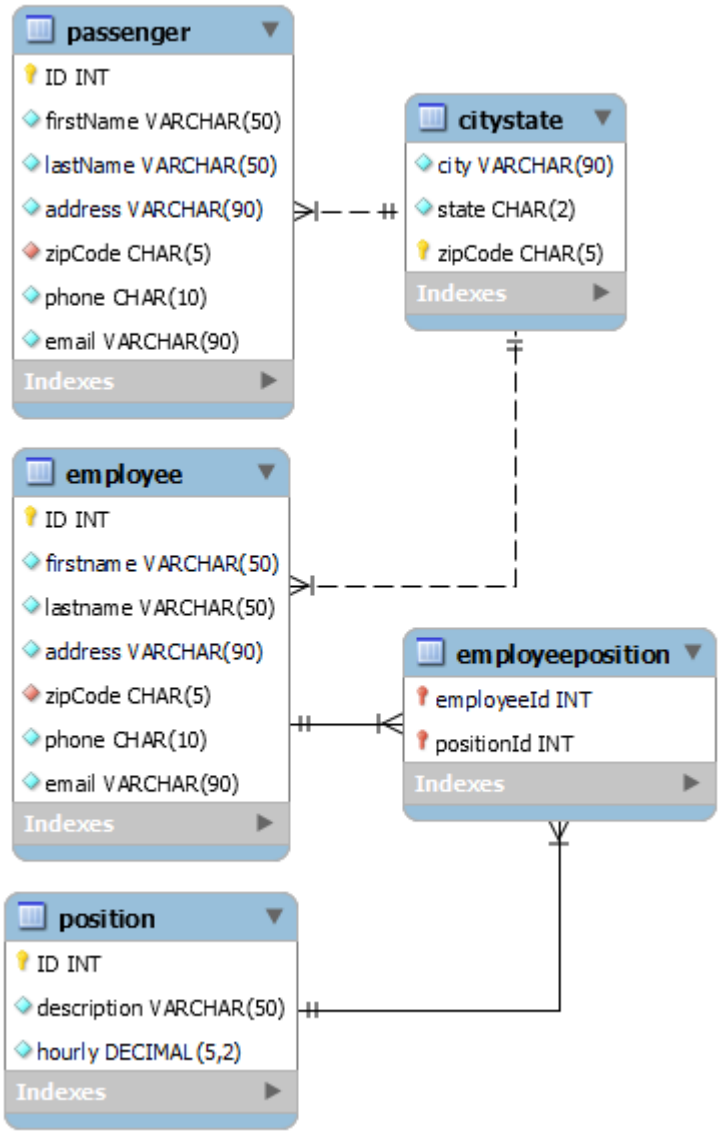

Figure 8 ER Diagram