

# University of Central Florida

## CGS 2545 Database Concepts

### Assignment 6

#### Airline Database Project

**Due, Friday, October 20, 2023 for maximum 100%**

**Saturday, October 21, 2023 for maximum 90%**

**Sunday, October 22, 2023 for maximum 80%**

**Monday, October 23, 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.
3. Insert data into tables.
4. Write a join query.
5. 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. 21\_SQL Order By.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 <b>airline</b>
2. Create a table named <b>flight</b> with the following attributes, data types, and constraints: <ol style="list-style-type: none"> <li>ID, integer, not null, auto increment</li> <li>origin, character, 3 characters, not null</li> <li>destination, character, 3 characters, not null</li> <li>aircraft, integer, not null</li> <li>departure, timestamp, not null,</li> <li>arrival, timestamp, not null,</li> <li>primary key is the id field</li> <li>foreign key is on column origin, references table airport, column faa</li> <li>foreign key is on column destination, references table airport, column faa</li> <li>foreign key is on column aircraft, references table aircraft, column ID</li> </ol>
3. Alter table so auto increment begins at value 100
4. Insert into table <b>flight</b> data from file <b>flight.sql</b>
5. Write a join query to join table <b>flight</b> and <b>aircraft</b> to select the following: <ol style="list-style-type: none"> <li>Columns <b>ID, origin, departure, destination,</b> and <b>arrival</b> from table <b>flight</b></li> <li>Column <b>model</b> from table <b>aircraft</b></li> <li>Order by column <b>departure</b></li> </ol>
<b>NOTE: Be sure to use aliases for the column names similar to Figure 2</b>
6. Generate an ER Diagram using MySQL Workbench, save as a .mwb file
7. Export database airline using MySQL Workbench, save as a .sql file
8. Provide written source code in a .sql file

Test Cases	
Test Case 1	<b>select * from flight</b> should look similar to Figure 1
Test Case 2	<b>Join query result set</b> should look like Figure 2
Test Case 3	ER Diagram should look like Figure 3

```
mysql> select * from flight;
```

ID	origin	destination	aircraft	departure	arrival
100	DAB	FLL	1	2023-11-01 07:00:00	2023-11-01 08:00:00
101	FLL	RSW	9	2023-11-01 08:00:00	2023-11-01 09:00:00
102	RSW	VPS	2	2023-11-01 09:00:00	2023-11-01 10:00:00
103	VPS	GNV	8	2023-11-01 10:00:00	2023-11-01 11:00:00
104	GNV	JAX	3	2023-11-11 11:00:00	2023-11-11 12:00:00
105	JAX	EYW	7	2023-11-11 12:00:00	2023-11-11 13:00:00
106	EYW	MLB	4	2023-11-04 13:00:00	2023-11-04 14:00:00
107	MLB	MIA	6	2023-11-04 14:00:00	2023-11-04 15:00:00
108	MIA	MCO	5	2023-11-05 15:00:00	2023-11-05 16:00:00
109	MCO	ECP	5	2023-11-05 16:00:00	2023-11-05 17:00:00
110	ECP	PNS	6	2023-11-06 17:00:00	2023-11-06 18:00:00
111	PNS	PGD	4	2023-11-06 19:00:00	2023-11-06 20:00:00
112	PGD	SFB	7	2023-11-07 07:00:00	2023-11-07 08:00:00
113	SFB	SRQ	3	2023-11-07 09:00:00	2023-11-07 10:00:00
114	SRQ	PIE	8	2023-11-08 07:00:00	2023-11-08 08:00:00
115	PIE	TLH	2	2023-11-08 09:00:00	2023-11-08 10:00:00
116	TLH	TPA	9	2023-11-09 07:00:00	2023-11-09 08:00:00
117	TPA	PBI	1	2023-11-09 10:00:00	2023-11-09 11:00:00
118	PBI	DAB	10	2023-11-10 11:00:00	2023-11-10 12:00:00

19 rows in set (0.00 sec)

Figure 1 Table flight

Flight Number	Aircraft	Origin	Departure	Destination	Arrival
100	Acro Sport	DAB	2023-11-01 07:00:00	FLL	2023-11-01 08:00:00
101	Sabre 40/60	FLL	2023-11-01 08:00:00	RSW	2023-11-01 09:00:00
102	A-500	RSW	2023-11-01 09:00:00	VPS	2023-11-01 10:00:00
103	1123 Westwind	VPS	2023-11-01 10:00:00	GNV	2023-11-01 11:00:00
106	747-300SR	EYW	2023-11-04 13:00:00	MLB	2023-11-04 14:00:00
107	EMB 175-E2	MLB	2023-11-04 14:00:00	MIA	2023-11-04 15:00:00
108	CitationJet	MIA	2023-11-05 15:00:00	MCO	2023-11-05 16:00:00
109	CitationJet	MCO	2023-11-05 16:00:00	ECP	2023-11-05 17:00:00
110	EMB 175-E2	ECP	2023-11-06 17:00:00	PNS	2023-11-06 18:00:00
111	747-300SR	PNS	2023-11-06 19:00:00	PGD	2023-11-06 20:00:00
112	GC-1B Globe	PGD	2023-11-07 07:00:00	SFB	2023-11-07 08:00:00
113	Model 18 Turboliner	SFB	2023-11-07 09:00:00	SRQ	2023-11-07 10:00:00
114	1123 Westwind	SRQ	2023-11-08 07:00:00	PIE	2023-11-08 08:00:00
115	A-500	PIE	2023-11-08 09:00:00	TLH	2023-11-08 10:00:00
116	Sabre 40/60	TLH	2023-11-09 07:00:00	TPA	2023-11-09 08:00:00
117	Acro Sport	TPA	2023-11-09 10:00:00	PBI	2023-11-09 11:00:00
118	PA-18-150 Super Cub	PBI	2023-11-10 11:00:00	DAB	2023-11-10 12:00:00
104	Model 18 Turboliner	GNV	2023-11-11 11:00:00	JAX	2023-11-11 12:00:00
105	GC-1B Globe	JAX	2023-11-11 12:00:00	EYW	2023-11-11 13:00:00

19 rows in set (0.01 sec)

Figure 2 Join query result set

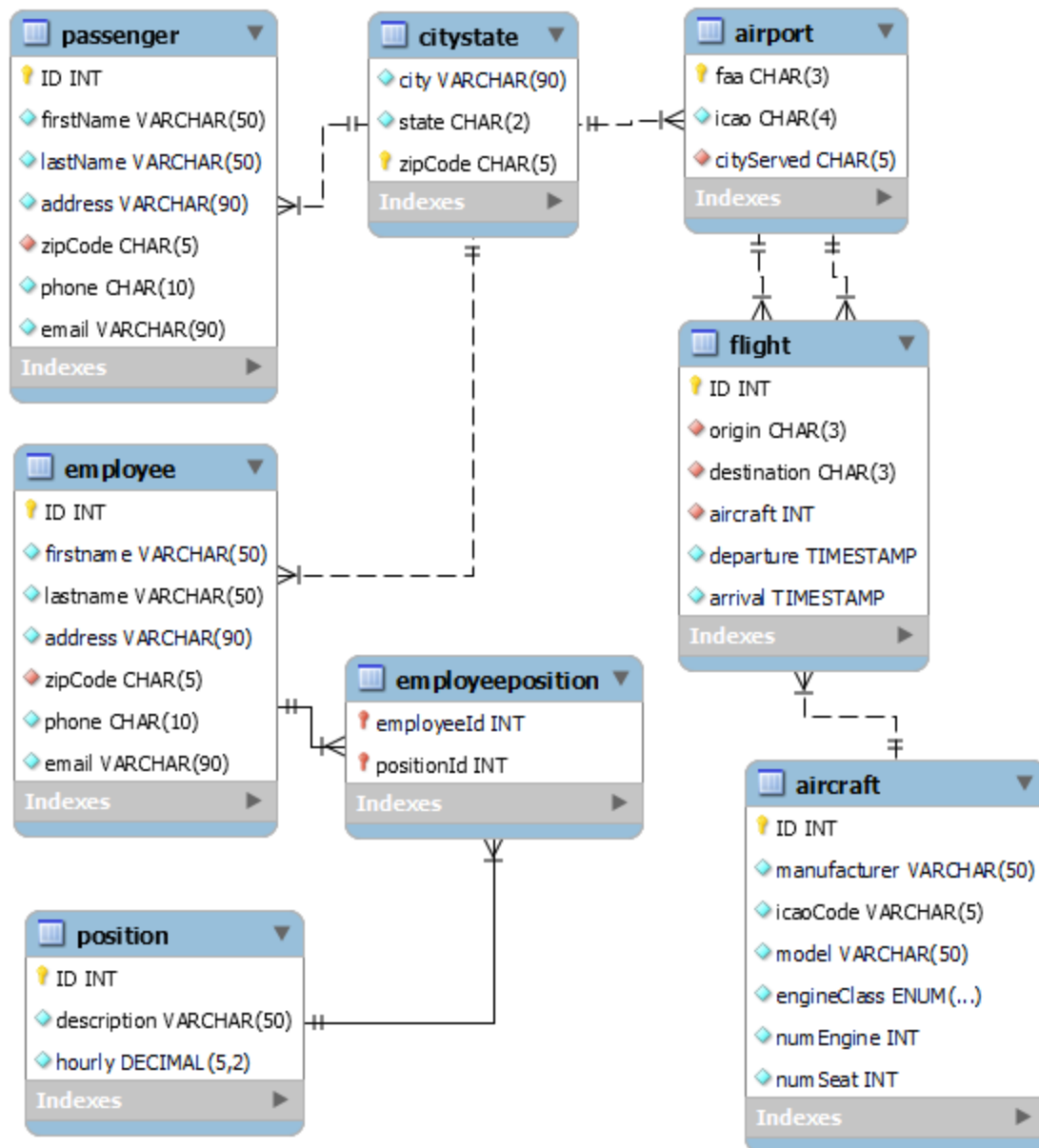


Figure 3 ER Diagram