

Flight Reservation Project
(Phase 2)

Phase 2 is a continuation of Flight Reservation Project, Phase 1, but there are some minor differentiations. If you do not understand something, ask!

In phase 2, you will have to create the tables corresponding to the relational schema. For this task, you need to use MySQL Workbench. In your report, list all CREATE TABLE statements. Specify as many constraints (keys, referential integrity, Null, etc.) as you can in your relational schema.

Task 1: Create the following 11 tables for the Flight Reservation Project database. [15 points]

USERS: USRID*, Name, email, Phone, Type*
 * *The DBMS needs to provide the USRID,*
 * *Type {1:Customer, 2:Customer Representative, 3:Admin}*

AIRCRAFT: ARCID, Name, ARLID

AIRLINE: ARLID, Name

AIRPORT: ARPID, Name

ARCCLASS: ARCID, CLASS, ChangeFee, NumofSeats

ARLARP: ARLID, ARPID

FLIGHT: ARLID, FLGID, Type*, DepARPID, DepTime, DesARPID, DesTime, ARCID
 * *Type {1:Domestic, 0:International}*

FLGCLASS: ARLID, FLGID, CLASS, Fare

FLGDAYS: ARLID, FLGID, DAY
 * *DAY {Mon, Tue, Wed, Thu, Fri, Sat, Sun}*

TICKET: TCKID, USRID, Type*, TotalFare, PurchaseDateTime
 * *Type {1:One-way, 2:Round-Trip}*

SEQUENCE: TCKID, ARLID, FLGID, CLASS, TravelDate *
 * *The date that the customer will travel*

Note: You are NOT allowed to alter the given structure.

Task 2: Load the data from the text files into the corresponding tables. [15 points]

Please, keep in mind that you are not allowed to modify the data beyond the provided ones in the screenshots. After you insert the data to the tables, run a query to return the rows you entered.

For this task, you need to submit for every table a screenshot with:

- your query command,
- the returned rows (data),
- the "Action Output" of this specific SQL command.

Data to enter:**USERS:**

USRID	Name	email	Phone	Type
1	Lula Wiley	wiley@gmail.com	+1-202-555-0177	1
2	Isabell Horn	horn@gmail.com	+1-202-555-0136	1
3	Usman Hook	hook@hotmail.com	+1-219-555-0126	1
4	Abdullah Singleton	singleton@outlook.com	+1-404-555-0199	1
5	Sumaiya Dean	dean@yahoo.com	+1-512-555-0161	1
6	August Phillips	phillips@gmail.com	+1-213-555-0128	1

AIRCRAFT:

ARCID	Name	ARLID
1	Airbus A321	AA
2	Boeing 737	AA
3	Airbus A320	UA

AIRLINE:

ARLID	Name
AA	American Airlines
AC	Air Canada
DL	Delta Air Lines
EK	Emirates
LX	SWISS International Air Lines
OA	Olympic Air
UA	United Airlines

AIRPORT:

ARPID	Name
AIA	Athens International Airport
ATL	Hartsfield–Jackson Atlanta International Airport
DFW	Dallas/Fort Worth International Airport
LAX	Los Angeles International Airport
ORD	O'Hare International Airport
SFO	San Francisco International Airport
YYZ	Toronto Pearson International Airport

ARCCLASS:

ARCID	CLASS	ChangeFee	NumofSeats
1	Economy	50.00	171
1	First	0.00	16
2	Economy	50.00	114
2	Extra	50.00	30
2	First	0.00	16
3	Economy	50.00	96
3	First	0.00	12
3	Plus	50.00	42

ARLARP:

ARLID	ARPID
AA	AIA
OA	AIA
AA	ATL
AA	DFW
AA	LAX
DL	ORD
EK	ORD
AC	YYZ

FLIGHT:

ARLID	FLGID	Type	DepARPID	DepTime	DesARPID	DesTime	ARCID
AA	242	1	ATL	18:21:00	DFW	20:50:00	2
AA	2403	1	DFW	14:30:00	ATL	17:37:00	2
AA	2459	1	DFW	14:35:00	LAX	16:02:00	1
AA	2733	1	LAX	16:40:00	DFW	21:43:00	1
AA	2737	1	DFW	07:09:00	ATL	10:19:00	2
UA	589	1	DFW	17:56:00	ORD	20:23:00	3
UA	775	1	ORD	12:50:00	DFW	15:28:00	3

FLGCLASS:

ARLID	FLGID	CLASS	Fare
AA	242	Economy	63.00
AA	242	Extra	75.00
AA	242	First	500.00
AA	2403	Economy	63.00
AA	2403	Extra	80.00
AA	2403	First	450.00
AA	2459	Economy	60.00
AA	2459	First	300.00
AA	2733	Economy	57.00
AA	2733	First	300.00
AA	2737	Economy	60.00
AA	2737	Extra	75.00
AA	2737	First	300.00
UA	589	Economy	90.00
UA	589	First	600.00
UA	589	Plus	110.00
UA	775	Economy	45.00
UA	775	First	250.00
UA	775	Plus	50.00

FLGDAYS:

ARLID	FLGID	DAY
AA	242	Sat
AA	242	Sun
AA	2403	Mon
AA	2403	Tue
AA	2459	Fri
AA	2459	Thu
AA	2733	Fri
AA	2733	Thu
AA	2737	Wed
UA	589	Fri
UA	775	Fri
UA	775	Sat

TICKET:

TCKID	USRID	Type	TotalFare	PurchaseDateTime
1	1	1	9.99	2020-04-02 01:39:43
2	2	1	9.99	2020-01-23 11:18:16

SEQUENCE:

TCKID	ARLID	FLGID	CLASS	TravelDate
1	UA	589	Economy	2020-04-24
1	UA	775	Plus	2020-05-02
2	AA	242	Economy	2020-03-15
2	AA	2403	Extra	2020-03-13

Data sources:

Names: <https://www.name-generator.org.uk/quick/>

Phones: <https://fakenumbers.org/>

Airlines: http://www.sterlingtravel.co.uk/airline_list.html

Airports: <https://www.world-airport-codes.com/world-top-30-airports.html>

Task 3: Then execute the following queries on your database tables:

For this task, you will have to write and execute queries based on the questions' requirements. Also, you will have to add and modify data based on the instructions below. Again, you are not allowed to alter the data beyond this task's scope.

For this task, you need to submit for every question

- the question,
- the query command (editable), and
- a screenshot with the query command, the returned rows (data), if any, and the "Action Output" for each SQL command.

Question 1: Insert yourself as a New Customer. Do not provide the customer id in your query.
[2 points]

Question 2: Update your phone number to +1-837-721-8965
[2 points]

Question 3: The value of TICKET.TotalFare for both records is wrong, and you need to write commands to update it.

- Write an SQL query that returns for every line of the table SEQUENCE the flight fare. [5 points]
- Then, write another query that will return the total fare per 'SEQUENCE' record. [5 points]
- Finally, run an update command to correct the wrong values. [3 points]
- Select all records from table 'TICKET'. [2 points]

Question 4: Insert a new 'TICKET' record for you, as a customer, based on the information below:
[6 points]

Flight: AA2459,
Departure from: Dallas/Fort Worth International Airport,
Destination: Los Angeles International Airport,
Travel date: 05/29/2020
Class: Economy, One-way

Make sure that you will update with the correct information both tables ('TICKET' and 'SEQUENCE'). Show your work in steps.

Question 5: Return for every flight, the airline id, the flight id, the departure and destination airport description, and the aircraft description. Furthermore, on the same query, return the type, but instead of 1, return 'Domestic'. Order your results by the departure airport id.
[5 points]

Question 6: Present only for the economy class a prediction of an increased fare by 5%. In your results, you need to include all classes, not only the predicted economy fare. Note that this query will only present a prediction of 5% for the economy fare. It will not update any record in your database.
[5 points]

Question 7: Return the airline ids and the airline description for those airlines that are not associated with any airport.
[4 points]

Question 8: Return the airline id, airline description, and the associated airports' ids and descriptions. For the airlines that are not associated with any airport, instead of having blank cells, type 'N/A'. (*Hint: There is a DBMS function that replaces empty values*).

[8 points]

Question 9: Write a query that will calculate for all tickets how many days left until the flight date. Ignore past tickets. (*Hint: Do not hardcode today's day. There is a DBMS functionality that automatically returns the today's date*).

[6 points]

Question 10: Write a query that will return the airline id, flight id, and all aircraft classes, along with the number of seats, the change fee and the fare. Order your results by the aircraft id.

[7 points]

Do not forget to name appropriately the attributes of your queries.

For this phase, you need to submit only **ONE** document file (.pdf, doc or .docx) with:

- Task 1 SQL commands, and if you have any comments to add, e.g., how you decided on specific data types, or constraints etc. [15 points]
- For task 2, describe your methodology, paste your commands (text), and let us know if there were any challenges. [15 points]
- For task 3, type the question description, your query text, a screenshot of the query output, and the "Action Output" with the total number of records returned or affected. Also, let us know if there were any challenges. Note that your queries need to be editable for full credit. [60 points]
- Don't forget to type the honor code. [10 points]

Name your file as teamId.docx. Make sure that your document looks professional. Phase 2 can be appended at the end of Phase 1.

All students are expected to include the honor code on the first page of their assignment. Failing to do so will cost 10 points.

HONOR CODE

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or that I contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

STUDENTS ARE REQUIRED TO NOT SHARE ANY OF THE PROJECT RELATED DOCUMENTS AND SOLUTION WITH OTHERS IN ANY WAY OR FORM EVEN AFTER THE COMPLETION OF THE PROJECT. STUDENTS MAY, HOWEVER, SHOW THEIR PROJECTS TO INTERVIEWERS.

Late penalty: -5 points per hour