

CS3380: DATABASE APPL & INFO SYS

Lab 3: DDL and DML Introduction

For this lab, you will create two tables within your database, INSERT data into those tables, and interact with the data using SELECT, UPDATE, and DELETE. You are required to submit two .sql files on Blackboard to receive credit for this lab. The first should be all queries requested by this document (Use comments to label each query). The second file should contain a database dump of the `pilot` and `plane` tables after you complete and execute the queries requested by this document (Hint: mysqldump). Both files should be submitted via Blackboard under assignments. The deadline for this assignment is Sunday, September 13, 2015 at 11:59pm.

A: Use the DDL provided in the lecture slides as a reference to create the pilot and plane table.

A1: Create the `pilot` table.

A2: Create the `plane` table with a foreign key referencing `pilot`.

(Hint: Make sure to specify ENGINE=INNODB on both tables, or your foreign keys will not work.)

B: Write INSERT statements to populate your tables based on the following statements.

Example: Insert a record into the pilot table.

```
INSERT INTO pilot (fname, lname, birthdate)
VALUES ('Charles', 'Lindbergh', '1902-02-04');
```

B1. Insert 10 records into the pilot table.

B2. Insert 10 records into the plane table. Make sure to provide a valid `license_number` since there is a foreign key constraint.

C: Write SELECT statements to answer the following queries. (Hint: anytime you see [\(..._FROM_YOUR_DATA\)](#) you must choose a value that exists in your database to complete the query.)

Example: Show the first name of all entries in the pilot table.

```
SELECT fname FROM pilot;
```

- C1.** Show the brand and model of all records in the plane table.
- C2.** Show the last name of all records in the pilot table where the last name is (NAME_FROM_YOUR_DATA).
- C3.** Show the number of engines of all records from the plane table where the brand is (BRAND_FROM_YOUR_DATA).
- C4.** Show the birthdate of all records in the pilot table.
- C5.** Show all records in the pilot table.
- C6.** Show the tail number of all records in the plane table.

D: Write UPDATE/DELETE statements to satisfy the following statements.

Example: Update the pilot table by changing the last name of the pilot with license number 2 to 'Jones.'

```
UPDATE pilot SET lname='Jones' WHERE license_num = 2;
```

- D1.** Update the plane with tail number (ID_FROM_YOUR_DATA) to have 4 engines.
- D2.** Delete the plane with tail number (ID_FROM_YOUR_DATA).
- D3.** Update all pilots with the first name (NAME_FROM_YOUR_DATA) to have a last name of (NAME_FROM_YOUR_DATA).
- D4.** Update all planes that are model (MODEL_FROM_YOUR_DATA) to have a brand of (BRAND_FROM_YOUR_DATA)
- D5.** Delete all planes with fewer than 2 engines.