Team members:

# Lab 4

The goals of the lab are to get some practice handling data in MySQL, specifically sorting and dates.

**Background**

The order of results of a MySQL query cannot be relied upon. However, it is possible to sort them into ascending or descending order. Sorting numbers is obvious. Text is lexicographic, meaning, it depends on the order of alphanumerics in the character code.

Dates and times are like numbers. For instance, ascending means the least recent to most recent (e.g., past toward future). Descending means the most recent to least recent (e.g., future toward past).

Aside from the facts of time zones, leap years (i.e., Julian vs. Gregorian calendars), and clock skew, there are different date/time formats. Namely, wall clock time (00:00 - 12:00), military time (0 - 2359) , American (MM-DD-YY) vs. European (YY-MM-DD), etc. There is also the issue of arithmetic, for instance, how to express tomorrow or yesterday relative to now.

The MySQL DATETIME data type incorporates both the date and the time. The literal DATETIME format in string form is YYYY-MM-DD HH:MM:SS.

For instance, the exact date literal for January 25, 1935 at 3:19 PM is ‘1935-01-25 15:19:00’.

**Tasks**

1. Find five (5) dead U.S. presidents. Get biographical data for each of them.

For example, Abraham Lincoln was the 16th president born on 12 Feb 1809.

1. Create an *.sql* file in NotePad called presidents.sql.
2. At the top of the file add the two comments:

# Presidents of the United States # Authors: <team member names>

1. Add to presidents.sql a statement to create the site\_db, if it does not exist.
2. Add to presidents.sql a statement to delete the presidents table, if it exists.
3. Add to presidents.sql a statement to create a table, presidents, which has the following structure.

|  |  |  |
| --- | --- | --- |
| Column | Data type | Modifier |
| id | INT | auto increment, primary key |
| fname | TEXT | not null |
| lname | TEXT | not null |
| num | INT | not null |
| dob | DATETIME | not null |

1. Add to presidents.sql an insert statement which populates the presidents table with the presidential data.

a. For dob use 00:00:00 for HH:MM:SS.

1. Add to presidents.sql a query statement to output the unsorted presidents table.
2. Add to presidents.sql a query to output the dead presidents sorted in ascending order by number. **DO NOT INCLUDE the id or first name columns.**

For instructions on how to use the SORT command, see p. 112-113 in McGrath (2012).

1. Add to presidents.sql a query to output the dead presidents sorted in ascending order by last name. **DO NOT INCLUDE the id or first name columns.**
2. Add to presidents.sql a query to output the dead presidents sorted in descending order by dob. **DO NOT INCLUDE the id or first name columns.**

For instructions on how to use the SORT descending command, see p. 114-115 in McGrath (2012).

1. Open EasyPHP and start the web and database servers.
2. Open the MySQL command shell and source presidents.sql.
3. Submit a copy of the output and your presidents.sql file to iLearn with you and your lab partner’s names, or turn in hardcopy of the output and the file.