

### Exercise 1. Import Baseball Statistics.

1. Log in to the Mission College PHP server, or start the xAMP server on your home computer.
2. Log in to the MySQL server using the commands we discussed in class last Thursday:  

```
mysql --local-infile=1 -h localhost -u ca86_xx -p
```
3. (On your home computer, you may need to specify the full path to the mysql monitor program.)

4. Issue the **USE** command to connect to a database. On the Mission College server, your database will be `ca86_xx` where `xx` is your account number.

5. Type in the following MySQL commands:

```
CREATE TABLE teamstats (Team VARCHAR(50), FirstYear INT, G INT, W
INT, L INT, Pennants INT, WS INT, R INT, AB INT, H INT, HR INT, AVG
FLOAT, RA INT, ERA FLOAT);
DESCRIBE teamstats;
LOAD DATA LOCAL INFILE '/tmp/team_stats.txt' INTO TABLE teamstats;
SELECT * FROM teamstats;
```

6. Save or export the text from your session into a file named `exercisel.txt`. Link the `exercisel.txt` file to your home page on the Mission College server.
7. Note: the path `/tmp/team_stats.txt` works on the Mission College server. For use on your home computer, you can use FTP to download the file from the `/tmp` directory on the Mission College server, or you can get the file from Canvas.
8. Note:
  - a. G = games
  - b. W = wins
  - c. L = losses
  - d. WS = walks?
  - e. R = runs?
  - f. AB = at bats
  - g. H = hits?
  - h. HR = home runs
  - i. AVG = batting average
  - j. and I'm not sure what the others mean!

## Exercise 2. Examine baseball statistics.

You will find out teams that have the most and least all-time home run, the total of all games played by all teams, and the common batting average for all teams.

1. Log in to the MySQL server.

2. Get team name, games played, and at bats:

```
SELECT team, G, AB FROM teamstats;
```

3. Now sort by team name:

```
SELECT team, G, AB FROM teamstats ORDER BY team;
```

4. Now reverse sort:

```
SELECT team, G, AB FROM teamstats ORDER BY team DESC;
```

5. Use the LIMIT kryeotf to get the team with the least all-time home runs (Tampa Bay):

```
SELECT team, HR FROM teamstats ORDER BY HR LIMIT 1;
```

6. Now get the team with the most home runs (Yankees):

```
SELECT team, HR FROM teamstats ORDER BY HR DESC LIMIT 1;
```

7. Get the total number of games played. Each game is played between two teams, so the sum gives 2x the actual number of games played. So we'll divide by 2.

```
SELECT SUM(G) FROM teamstats;
```

8. Get the average batting average:

```
SELECT AVG(AVG) FROM teamstats;
```

9. Get the true average, which is a weighted average:

```
SELECT Sum(AVG*AB)/Sum(AB) FROM teamstats;
```

10. Save or export the transcript of your session to a file named exercise2.txt. Link this file to your home page.

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### Exercise 3. Create a population database.

1. Create a table called `largestcities` with 3 fields: City, State, and Population. Fill the table with information about the largest US cities from Wikipedia or other sources.
2. You could put the data in a text file and import it, or you could enter the data using INSERT statements. Either way will work. Make sure I see your work. If you import the data from a separate text file, link the text file to your home page as well as the transcript.
3. Print the cities and the populations sorted by city,
  - a. then by population,
  - b. then by population in reverse order (largest at the top);
4. Print the states and the sum of all the populations of their largest cities in the table.
  - a. Use `SUM(Population)`
  - b. Use `GROUP BY`
5. Print #4 again but order by population.
  - a. Print again but reverse order by population.
  - b. Print again but print only the state with the largest aggregate population.
    - i. Use `LIMIT 1`
6. Print the States and the count of the number of cities in each state.
  - a. Use `COUNT(State)`
  - b. Use `GROUP BY`
7. Save your work in a file named `exercise3.txt`.
8. (If you import the data from a separate text file, link the text file to your home page as well as the transcript.)

### Exercise 4. Create a proverbs/fortunes database.

1. Create a table called `proverbs` with 3 fields: `number` (INT), `displayed` (INT), and `proverb` (VARCHAR at least 100 characters).
2. Copy your `proverbs.txt` file from a previous assignment or use the proverbs/fortunes provided on Week 10 of the class blog.
3. At the beginning of each line, add a unique number, a tab, a zero (0), and another tab.
  - a. You could also do this in Excel, and save the file as text, tab-delimited.
4. Upload the file to the Mission College server if necessary.
5. Import the file into your MySQL database.
6. Print the schema (DESCRIBE) and contents (SELECT \*) of your table.
7. Save your transcript in a file named `exercise4.txt`.

**Exercise 5. Integrate.** Put all your work in a folder called Chapter08 and link it all to your home page.