Assignment 5 – CIS4301, Fall 2018

Alin Dobra

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- **Due Date:** Wednesday December 12th, 2018 11:50pm
- **Submit via Canvas**

For this assignment, you will be asked to create an interface to query and edit data for a SQLite database. You will use the database maintained by the imaginary Southern Sierra Wildflower Club (SSWC), an organization whose members are interested in observing wildflowers in their native habitat in the southern part of the Sierra Nevada mountains of California. This is the same database as assignment 4.

The database maintained by the club has three tables:

```
SIGHTINGS (NAME, PERSON, LOCATION, SIGHTED)
FEATURES (LOCATION, CLASS, LATITUDE, LONGITUDE, MAP, ELEV)
FLOWERS (GENUS, SPECIES, COMNAME)
```

The database tables have the following semantics:

- `SIGHTINGS` gives information that describes every time that a member of the club observes one of the wildflowers described in the table `FLOWERS`. `NAME` tells the name of the flower observed, `PERSON` describes who saw the flower, `LOCATION` tells the name of a nearby geographical feature where the flower was seen, and `SIGHTED` tells the day when the flower was seen.
- `FEATURES` lists the various locations where flowers have been observed. `LOCATION` is the name of the place, `CLASS` is the type of place (there are several types, such as Summit, Mine, Locale, etc.), `LATITUDE` and `LONGITUDE` describe where on the surface of the earth the locations are found (if you are not familiar with the concepts of latitude and longitude, you might want to do a web search on them; the first is like an x-coordinate on the Earth's surface, and the second is like a y-coordinate). `MAP` tells the name of the topographic map where the feature can be found, and `ELEV` tells the height of the feature. These last few attributes will not be used in this assignment.
- `FLOWERS` lists all of the flowers that the members of the `SSWC` try to find. GENUS and SPECIES give the scientific name for the flower, and

`COMNAME` gives the non-scientific name (`SIGHTING.NAME` is a foreign key into `FLOWER.COMNAME`).

The database with the schema and initial data is attached to this assignment.

The Task

Create an interface that provides the following functionality:

- **Query** - Allow the user to select from a list of flowers. Using the selected flower, display the 10 most recent sightings of the selected flower. Information should include the date, location, and who sighted the flower.
- **Update** - Allow a user to select and update flower information.
- **Insert** - Allow a user to insert a new sighting of a flower.

Note 1 You are not limited to any technology. You can use python, php, etc as long as you meet the requirements outlined above.

Note 2 You must write the queries in SQL as opposed to using any ORM (object relational model) as supported by various web frameworks. You also need to use SQLite3 as the database.

What to turn in Submit all code and screenshots for each of the three requirements to canvas by the deadline. Alternativelly, you can create a short video demonstrating the application.

Group work You can work in groups of 2 for this assignment. Form groups using Canvas.