Student Roster DB From Schema

It's time to start building the databases from all those schema we designed, and we'll use Ruby to do it.

Objectives

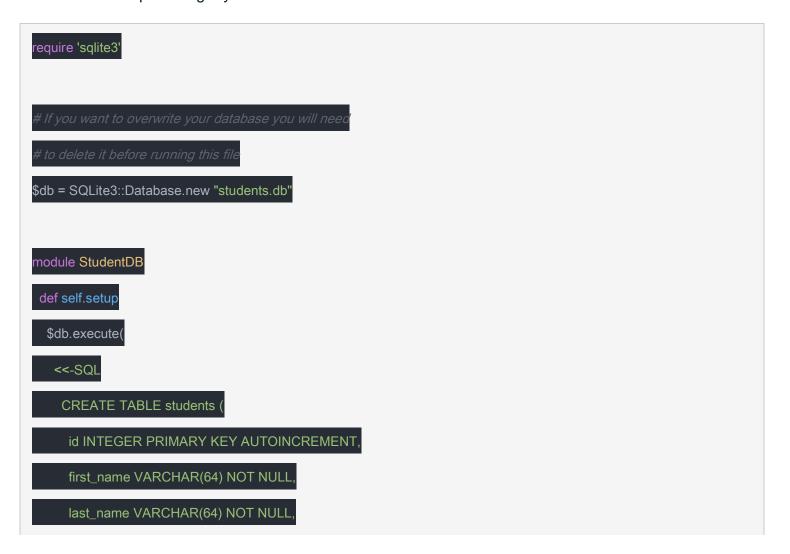
Create the student database in Ruby

Revisit the <u>Student Roster Schema Challenge</u> and write a ruby program that creates the database from this schema.

First, include the <u>SQLite3 gem for Ruby</u>. Install it by running:

gem install sqlite3

Next, create a file called setup.rb that you will only run once to create your database. Use the code below as a template to get you started.





Verify your database is working properly. You can do this by loading your setup.rb file in irb and run the StudentDB.setup and StudentDB.seedmethods. Then open up the Sqlite console with the students.db database and make sure you can run SELECT on these records.

Create the Student Class

There are some clear parallels with the Ruby objects and the Database tables.

SQL land	Ruby land
A table named students	A class named Student
A row from students	An instance of Student
SELECT * FROM students	Student.all
SELECT * FROM students WHERE firstname = 'bob' OR SELECT * FROM students WHERE firstname = ? , ' bob'	Student.where('first_name = ?', 'bob')
SELECT * FROM students WHERE id = 10 OR SELECT * FROM students WHERE id = ?, 10	Student.where('id = ?', 10)
INSERT INTO students (field1, field2,) VALUES(value1, value2,)	student = Student.new(data) student.save
DELETE FROM students WHERE id = 40	???

NOTE: In the SQL above, two versions of WHERE clauses are given. In the second version, a SQL placeholder? is used. This format helps avoid <u>SQL injection attacks</u> You can see more examples of placeholders in WHERE clauses and placeholders in INSERT clauses.

Add methods to the Student Class to execute SQL commands

Now write Ruby code that allows you to complete the following tasks:

- 1. Add a student
- 2. Delete a student
- 3. Show a list of all students
- 4. Show a list of students with a particular first_name
- 5. Show a list of students with any particular attribute

Use the table above as a guide for your methods. What can you infer about each method's declaration and structure?

Extra Credit:

- List which students have a birthday this month
- List students by birthday