0/28 Questions Answered

HW1: Intro to SQL and SQLite

Q1 Assignment Setup

0 Points

Q1.1 Introduction to SQLite

0 Points

We will use SQLite for this assignment. SQLite is a software library that implements a SQL database engine. We will use SQLite in this assignment because it offers an extremely lightweight method to create and analyze structured datasets. By "structured", we mean tabular datasets rather than, say, freeform text. Using SQLite is a minimal hassle approach to realizing the benefits of a relational database management system.

Of course, SQLite does not do everything, but we will get into that rationale in later assignments. In the meantime, you can also learn when to use SQLite and when not to use it.

◯ Thanks for the welcome, I can't wait to get started!

Save Answer

Q1.2 Resources

0 Points

The following may be useful for this homework:

- **FIXME** Ed discussion board
- Important SQLite commands:
  - To view help contents: `.help`
  - To view a list of all your tables: `.tables`
  - To exit: `.exit`
- A simple guide for commonly used command-line functions in SQLite.
- More information on formatting output in SQLite.
- An index of more detailed information for SQL commands in SQLite.
- A SQL style guide in case you are interested (FYI only).

◯ Woohoo, resources! I'll look at them if I have any questions

Save Answer

Q1.3 Running and Installing

0 Points

To run SQLite do the following:

- Mac OS X or Linux: if installed on your machine, open a terminal and type `sqlite3`
- Windows: there are three reasonable options, but only one is supported by the course staff:
  - Use attu and run `sqlite3` from the linux command line
  - [**Unsupported!**] Install the stand-alone windows program from the SQLite web site
    - (this is known as the "bundle of command-line tools" option at the download page)
  - [**Unsupported!**] Install cygwin to get a Linux command shell, then open cygwin and type `sqlite3. You may have to install SQLite by running setup → database → sqlite3. This is the most powerful and most complicated option because you can run other command line tools later. Ensure to check all the boxes for sqlite3. You may also choose to get python and vim which are nice to have!

python2	2.7.18-1	Source	☑
python27	2.7.18-1	Source	☑
python3	3.6.8-1	Source	☑
python36	3.6.10-1	Source	☑
rebase	4.4.4-1	Keep	☐
run	1.3.4-2	Keep	☐
sed	4.4-1	Keep	☐
shared-mime-info	1.8-1	Keep	☐
sqlite3	3.32.3-1	Source	☑
sqlite3-compress	3.32.3-1	Source	☑
sqlite3-extensions	3.32.3-1	Source	☑
sqlite3-icu	3.32.3-1	Source	☑
sqlite3-rbu	3.32.3-1	Source	☑
sqlite3-vfslog	3.32.3-1	Source	☑
sqlite3-zlib	3.8.9-1	Source	☑
sqliteman	1.2.2-7	Source	☑
tar	1.29-1	Keep	☐
tcl-sqlite3	3.32.3-1	Keep	☐
terminfo	6.1-1.20190727	Keep	☐
terminfo-extra	6.1-1.20190727	Keep	☐
tzcode	2020a-1	Keep	☐
tzdata	2020a-1	Keep	☐
util-linux	2.33.1-2	Keep	☐
vim	8.2.0486-1	Source	☑
vim-clang-format	8.0.1-1	Source	☑
vim-common	8.2.0486-1	Source	☑
vim-doc	8.2.0486-1	Source	☑

○ **TODO** Megan, is it reasonable to expect students to use seaside.cs?

Save Answer

Q1.4 Submission Details

0 Points

You will submit SQL commands that satisfy the requirements described by each question. We do not want you to submit the output of those commands, however.

We strongly recommend using SQLite to test your commands before submitting them here. We also recommend saving your SQL commands in files with a `.sql` extension while you work through the homework, to reduce the amount of copying-and-pasting from your browser into your terminal.

To help you plan your time: in 23au, the **median completion time for HW1 was 3h**, though this was for the UW CSE majors-only class.

◯ Got it! I'm ready to get started!

Save Answer

Q2 Simple Table Creation

30 Points

In this question, you will create a table and insert data into it. Recall that we are looking for SQL commands that can be *copy-and-pasted directly into a database* and executed without error.

Q2.1

3 Points

Write a SQL statement creating a table `Friends(source, destination, arefriends)` where both `source` and `destination` are strings and `arefriends` is an integer.

You can assume that names are no longer than 32 characters long. Please use VARCHAR instead of TEXT for this homework.

Please do not create any key constraints on the `Friends` table.

Save Answer

Q2.2

3 Points

Write 3 different SQL statements to insert the tuples `('Amal', 'Ciaran', 1)`, `('Amal', 'Bo', 1)`, and `('Bo', 'Ciaran', 0)` into the `Friends` table you created in 2.1.

Please do not submit a single `INSERT` statement; we want 3 separate SQL statements.

Save Answer

Q2.3

3 Points

Write a SQL statement that returns all tuples in your `Friends` table.

Save Answer

Q2.4

3 Points

Write a SQL statement that returns all tuples' `source` field (aka "returns the `source` column for all rows").

Save Answer

Q2.5

4 Points

Write a SQL statement that returns all tuples where `arefriends > 0`.

Save Answer

Q2.6
4 Points

Insert the tuple `('Amal', 'Ciaran', 1)` into your table a second time. Do you get an error? Why or why not?

- [ ] Yes, I got an error
- [ ] No, I did not get an error

Please explain why you got, or did not get, an error.

Save Answer

Q2.7
6 Points

Now insert the tuple `('Amal', 'Amal', '1')` into your table -- note how the last field is a string instead of an integer. Do you get an error? Why or why not?

- [ ] Yes, I got an error
- [ ] No, I did not get an error

Please explain why you got, or did not get, an error.

This is a tricky question; you might want to check the documentation.

Save Answer

Q2.8
4 Points

Finally, insert the tuple `('Amal', 'Amal', 'hello')` into your table. Did you get the same result as when you inserted the string `'1'`?

- [ ] Yes: same error message (or: same lack of error)
- [ ] No: error message differed (or: different result)

Before you rerun the query that you wrote in Question 2.5, please answer the following: do you expect to see the `'hello'` or `'1'` strings that you previously inserted

- [ ] Yes: I expected to see strings in the result
- [ ] No: I didn't expect to see strings

Now, please rerun your query. What was its output?

Save Answer

Q3 SQLite Formatting

10 Points

For this question, we will be experimenting with a few of SQLite's output commands and formats. Please submit both the *command you use to format* the output along with your *actual query* itself. Note, however, that we *do not want the actual output*.

When we run your code, we should see the entire contents of the `Friends` table printed 6 times.

Q3.1

8 Points

Turn column headers on, then output the entire table in these three formats:
1. print the results in comma-separated format
2. print the results in list format, delimited by ":"
3. print the results in column format and make **every** column has a width of >= 15 (not just the first one)

Save Answer

Q3.2

2 Points

Now turn the column headers off, and output the entire table again in the same three formats described above.

Save Answer

Q4 Table Creation with Types

25 Points

Next, you will create a table with attributes of type integer, varchar, date, and Boolean. However! SQLite does not have date and Boolean: you will need to learn how to use `varchar` and `int` in their stead.

Some advice:

- `0` (false) and `1` (true) are the values used to interpret Booleans.
- Date strings in SQLite are in the form: `'YYYY-MM-DD'`.
  - **Valid** date strings include: `'1988-01-15'`, `'0000-12-31'`, and `'2011-03-28'`.
  - **Invalid** date strings include: `'11-11-01'`, `'1900-1-20'`, `'2011-03-5'`, and `'2011-03-50'`.

Additionally, SQLite supports simple date formatting and manipulation. Feel free to try any of these examples to learn about the `date` function. We have also included an example of a SQL conditional.

- `select date('2011-03-28');`
- `select date('now');`
- `select date('now', '-5 year');`
- `select date('now', '-5 year', '+24 hour');`
- `select case when date('now') < date('2021-12-10') then 'Taking classes' when`

Q4.1
15 Points

Give a SQL statement that creates a table called `MyHomeworks` with the following attributes. You can pick your own attribute names, just ensure we can figure out which name is for which attribute:

- Name of the homework assignment: a varchar field
- Name of the class the assignment is for: a varchar field
- Estimated number of hours the assignment will take: an int
- Due date of the assignment: a varchar field (interpreted as date, specified above)
- Whether you completed it or not: an int (interpreted as a Boolean, specified above)

You will need to determine an appropriate size limit for the homework and class names when creating the table.

Save Answer

Q4.2

10 Points

Give a single SQL `INSERT` statement that inserts at least five tuples. You should insert at least one assignment you completed, at least one assignment that is estimated to require more than 12h of effort, and at least one homework where you leave the completion field NULL.

Save Answer

Q5 Writing Queries

36 Points

This set of questions tests your ability to write simple queries over our `MyHomeworks` table.

Q5.1

12 Points

Write a SQL query that returns everything we know about all homework assignments that are due between now and a week from now; include assignments that are due exactly one week from today. You must use the `date()` function to calculate the date 1 week from now.

Save Answer

Q5.2

12 Points

Write a SQL query that returns every attribute of every assignment that will take more than 5 hours to complete. Your query results should include **all** assignments, regardless of whether they are complete or were due in the past.

Save Answer

Q5.3
12 Points

Write a SQL query that returns only the name, class, and whether the assignment is completed for all homework assignments due now or in the past; recall that a homework can be in the past but still not completed.

Your query should list the assignments in (ascending) alphabetical order of names.

Save Answer

Q6 Syllabus Review

16 Points

Everyone has a slightly different idea of what constitutes "cheating". In this question, we will examine what *you* consider cheating and the repercussions of your personal definition.

Q6.1

4 Points

Please describe cheating, then give two concrete examples of behavior that fits or does not fit your definition.

Your description

Your examples

Example: "It's not cheating to use Github CoPilot to double check the code that I wrote, because it's analogous to having another student talk me through my errors"

Save Answer

Q6.2
6 Points

Suppose you engaged in *your definition of cheating* in one of our assignments or exams.

What would be the consequences to you, both positive and negative? You need to consider consequences on 3 different time horizons: short term (ie, 1 week), medium term (ie, this quarter), and long term (ie, after graduation).

Short term

Medium term

Long term

Example: "In the short term, I would get a better grade in the homework, and I'd be less stressed about fiddly compilation errors. I may also experience some doubt my ability to resolve compilation errors"

Save Answer

Q6.3
6 Points

Now, suppose a *substantive fraction of the class* (say, >30%) engaged in the activity you described above but you did not.

What would be the *consequences to you*, both positive and negative? Please consider consequences on 3 different time horizons: short term (ie, 1 week), medium term (ie, this quarter), and long term (ie, after graduation). Recall that consequences can be positive, negative, or neutral.

Short term

Medium term

Long term

Example: "In the short-term I'd be infuriated that I had to do the work that a substantive fraction of the class didn't. I probably wouldn't choose to work with the cheaters in a future assignment or quiz"

Save Answer

Q7 Reflection

6 Points

Q7.1

2 Points

What is one thing that you *learned* while doing this assignment?

Save Answer

Q7.2

2 Points

What is one thing that *surprised you* while doing this assignment?

Save Answer

Q7.3

2 Points

What is one *question that you still have* after doing this assignment?

Save Answer

Q8 Required Feedback

1 Point

The following questions help us understand if we are creating appropriately-challenging questions.

Q8.1 Timing

0.3 Points

How long did it take you to finish this homework, including time to set up your computer (if necessary)?

- ◯ 0-59 minutes (<1 hr)
- ◯ 1-2 hours
- ◯ 2-3 hours
- ◯ 3-5 hours
- ◯ 6 or more hours

Save Answer

Q8.2 Perception

0.3 Points

How many of those hours did you feel were valuable and/or contributed to your learning?

- ◯ 0-19% ("didn't learn anything")
- ◯ 20-49% ("not very valuable")
- ◯ 50-79% ("valuable")
- ◯ 80-100% ("learned a lot")

Save Answer

Q8.3 Collaboration

0.4 Points

Did you collaborate with other students on this homework? If so, approximately how many people did you collaborate with?

- ○ None, I did this without consulting any other students, current or former (solo)
- ○ 1 other student (partnered)
- ○ 2-3 students (small group)
- ○ 4-5 students (medium group)
- ○ Greater than 6 (large group)

Save Answer

Save All Answers

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