

CSCI 4333 Design of Database Systems
Summer 2020
Homework #7

Web Database Development with MySQL, PyMySQL and Python

You should have already installed XAMPP so you can have Apache in your computer. Follow the steps in the class lecture notes to ensure that Apache supports Python CGI. Also, for pymysql documentation, see <http://pymysql.readthedocs.io/en/latest/>.

Use Swim in MySQL: [createSwim.sql.txt](#) and [PopulateSwim.sql.txt](#)

Write a Python CGI application, h7.py. It may accept one HTTP parameter, *sid*, which is swimmerId.

The Web application initially displays all caretakers in nested lists. For each caretaker, it shows

1. caretakerId
2. name
3. the number of swimmers in which the caretaker is the primary caretaker.
4. a nested list of URL link with names of these swimmers in (3).
5. the number of swimmers in which the caretaker is a secondary (other) caretaker.
6. a nested list of URL link with names of these swimmers in (5).

Study the following format to ensure that your application will reproduce it.

`http://.../h7.py`

← → ↻ ⓘ localhost/ [redacted] /h7.py ☆ ⓘ

Please select from the following caretakers:

Caretakers:

- caretakerId:1: Azelea Khan:
 - primary caretaker for 2 swimmer(s):
 - [Bobby Khan](#)
 - [Billy Khan](#)
 - secondary caretaker for 1 swimmer(s):
 - [Nina Khan](#)
- caretakerId:2: Joseph Khan:
 - primary caretaker for 1 swimmer(s):
 - [Nina Khan](#)
 - secondary caretaker for 1 swimmer(s):
 - [Bobby Khan](#)
- caretakerId:3: Jim Khan:
 - secondary caretaker for 3 swimmer(s):
 - [Bobby Khan](#)
 - [Billy Khan](#)
 - [Nina Khan](#)
- caretakerId:4: Katie Johnson:
 - primary caretaker for 2 swimmer(s):
 - [Clara Johnson](#)
 - [Joe Fen](#)
- caretakerId:5: Elizabeth Johnson:
 - primary caretaker for 1 swimmer(s):
 - [Philip Johnson](#)
 - secondary caretaker for 1 swimmer(s):
 - [Clara Johnson](#)
- caretakerId:6: Benjamin Smith:

Azelea Khan is the primary caretaker of two swimmers: Bobby Khan and Billy Khan, and a secondary caretaker of 1 swimmer: Nina Khan.

If the link for Bobby Khan is clicked, the application shows information for Bobby Khan.

Katie Johnson is not a secondary caretaker, but is the primary caretaker of two swimmer.

Benjamin Smith is not an active caretaker.

If the link for 'Bobby Khan' is clicked, it will lead to

<http://.../h7.py?sid=1>

which shows:

← → ↻ ⓘ localhost/ [redacted] /h7.py?sid=1

Swimmer #1, Bobby Khan: current level: Yellow

Your program does not need to check for HTTP parameter errors.

Host the Python application in your dcm account. Note that dcm server may have problems in using dbconfig.py and dbconfig.ini, so you may simply include your dcm's MySQL credential *directly* in h7.py, which should be:

Host: localhost

user: <<your dcm MySQL username>>

password: <<your dcm MySQL password>>
database: swim

Submit URL at dcm for the Web application and the Python code to the TA so she can grade your work.

Your program file name should be h7.py. Submit your homework through Blackboard. Add the extension .txt in your submission if necessary.