

Database Systems Spring 2026 Homework #6

Web Database Development with MySQL, PyMySQL and Python

For development, you should have already installed XAMPP so you can have Apache on your computer for development. Follow the steps in the class lecture notes to ensure that Apache supports Python CGI. XAMPP configuration in Mac is more error prone. If you use Mac, be sure that you start early.

You are strongly encouraged to use Python 3.10 or below for development in your local computer.

Use the Swim DB: [../notes/swim/Swim.html](http://notes/swim/Swim.html).

Your program file name should be `h6.py`. Submit your homework, `h6.py.txt`, through Canvas. The extension `.txt` in your submission to Canvas is added to your work, `h6.py`. Port and upload `h6.py` to the DCM server for the TA to grade. Your URL should be `http://dcm.uhcl.edu/<<your_web_account>>/h6.py`. You should put your URL in a comment in `h6.py` at the beginning.

```
# Program url: http://dcm.uhcl.edu/<<your_web_account>>/h6.py
```

Specification

Write a Python CGI application, `h6.py`, to accept zero or one HTTP parameter: *mid*, an event Id, or *eid*, an event id, (but not both)

The Web application displays primitive information about swimmers participating in an event. If no HTTP parameter is supplied, e.g.

Study the following format, especially the highlight parts, to ensure that your application will reproduce it. Consider when there is no HTTP parameter.

```
http://.../h6.py
```

The Web application displays all meets in the following manner. Please study the details carefully.

← → ↻ ⓘ localhost/[REDACTED]/h6.py

There are 3 meets. Please select one.

- 1. [UHCL Open](#): at UHCL.
- 2. [Shell Trial](#): at CLHS.
- 3. [Clear Lake Contest](#): at CLHS.

Annotations:

- Total number of meets in the database.** (points to the number 3)
- venue** (points to "at UHCL")
- Name and link to the meet "UHCL Open"** (points to the first list item)

If a link to a meet is clicked, h6.py should show event information of the meet in the following manner. For example, if the link for '(1): UHCL Open' is clicked, it will lead to the page

<http://.../h6.py?mid=1>

Meet #1: UHCL Open

Venue: UHCL

Date/time: 2016-03-03: 9:00:00 to 16:00:00

Events:

- 1. [50M Butterfly](#): 3 participants.
- 2. [100M Freestyle](#): 3 participants.
- 3. [100M Butterfly](#): 2 participants.
- 4. [200M Freestyle](#): 1 participants.

Note that the event is linked and when it is clicked, simple information of the event will be shown:

<http://.../h6.py?eid=1>

← → ↻ ⓘ localhost/[REDACTED]/h6.py?eid=1

Participants in Event # 1

- 1. Johnson Philip: 713-222-1010
- 2. Khan Billy: 832-116-2992
- 3. Khan Nina: 832-116-2992

Note that DCM server may have problems in using dbconfig.py and dbconfig.ini. You should use the following version of dbconfig.py:

```
import configparser
```

```
from pathlib import Path

# simplistic and no error handling.
def get_mysql_param(filename='dbconfig.ini', section='mysql'):
    config = configparser.ConfigParser()
    file_path = (Path(__file__).parent / filename).resolve()
    config.read(file_path)

    return config[section]
```

Your MySQL credential at the DCM server should exactly be:

dbconfig.ini:

```
[mysql]
host: localhost
user: dbguest
password: uhcl__dbguest
database: swim
```

The MySQL account dbguest has been created with read privilege to both toyu and swim databases in the DCM server.