Web Database Development with MySQL, PyMySQL and Python

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.

Use the Swim DB: https://dcm.uhcl.edu/yue/courses/joinDB/Fall2024/.

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 as a comment in h6.py immediately following the she-bang line if there is a she-bang line. If there is not a she-bang line, it should be the first line. For example:

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

Specification

Write a Python CGI application, h6.py, to accept zero to two HTTP parameters: *mid*, the id of a meet, and *eid*, the id of an event, in the swim DB.

The Web application displays information about meets and events. Study the following format, especially the highlight parts, to ensure that your application will produce it. If no HTTP parameter is supplied, i.e.:

http://.../h6.py

the Web application displays all meets and their events in the following manner:

Information about meets

1. UHCL Open: 4 events on 2016-03-03 at UHCL
    1. 200M Freestyle
    2. 100M Butterfly
    3. 100M Freestyle
    4. 50M Butterfly
2. Shell Trial: 5 events on 2016-08-04 at CLHS
    1. 50M Butterfly
    2. 100M Breaststroke
    3. 200M Freestyle
    4. 100M Butterfly
    5. 100M Freestyle
3. Clear Lake Contest: 2 events on 2019-07-04 at CLHS
    1. 50M Breaststroke
    2. 200M Backstroke

All meets in Swim DB

Links to meets

Links to events

When a meet link is followed, your program should direct it back to the same page, adding a query string with the meet id valule to the HTTP parameter mid. For example, if the "UHCL Open" linked is followed, it goes to:

http://localhost/.../h6.py?mid=1

More information on meet #1: UHCL Open

1. level 2: Blue; 2 events
    1. id: 2; title: 100M Freestyle
    2. id: 1; title: 50M Butterfly
2. level 3: Yellow; 2 events
    1. id: 3; title: 100M Butterfly
   2. id: 4; title: 200M Freestyle

Meet info in this manner.

When an event link is followed, your program should direct it back to the same page, adding a query string with the event id valule to the HTTP parameter eid. For example, if the "100 M Free Style" link within the meet "UHCL Open" is followed, it goes to:

http://localhost/.../h6.py?eid=2

Swimmers in the event 100M Freestyle (id: 2)

1. Nina Khan: (id: 3)
2. Billy Khan: (id: 2)
3. Philip Johnson: (id: 5)

Event information in this manner

Host the Python application in your dcm account by uploading your Python program to the pages folder within your account by using FTP. For example, for my account, upload h6.py to the pages folder:
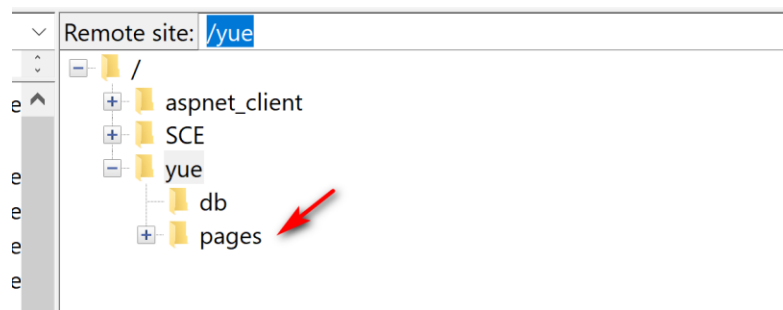
You can then be able to access through the link http://dcm.uhcl.edu/yue/h6.py (after replacing yue by your course Web directory name).

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: *<<will let you know in the class>>*

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