DASC 5333 Database Systems for Data Science
CSCI 4333 Design of Database Systems
Spring 2024
Homework #6

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/Spring2024/.

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 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 not, it should be the first line.

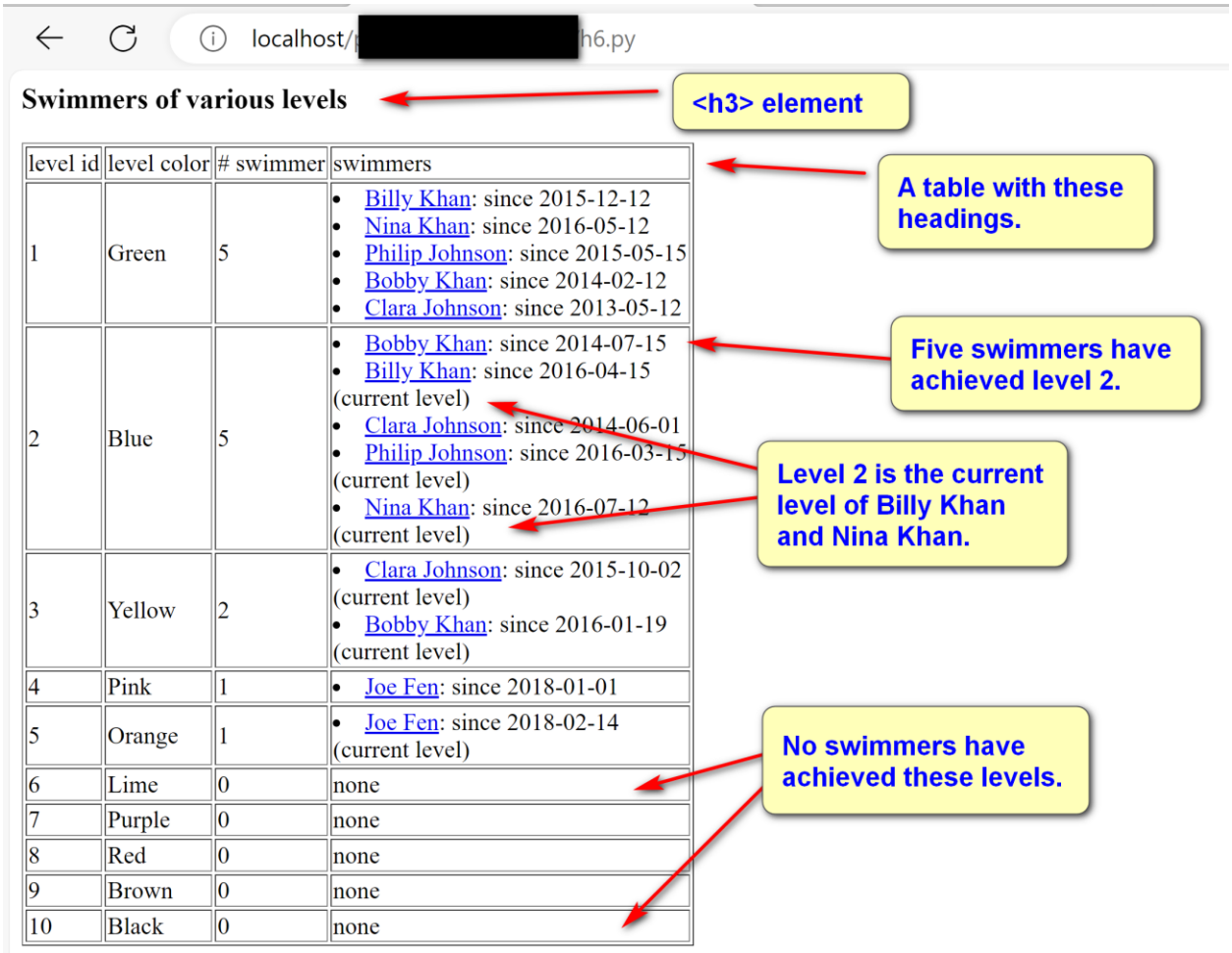
Specification

Write a Python CGI application, h6.py, to accept zero or one HTTP parameter: s*id*, the id of a swimmer in the swim DB.

The Web application displays information about all caretakers If no HTTP parameter is supplied. Study the following format, especially the highlight parts, to ensure that your application will reproduce it. For

http://.../h6.py

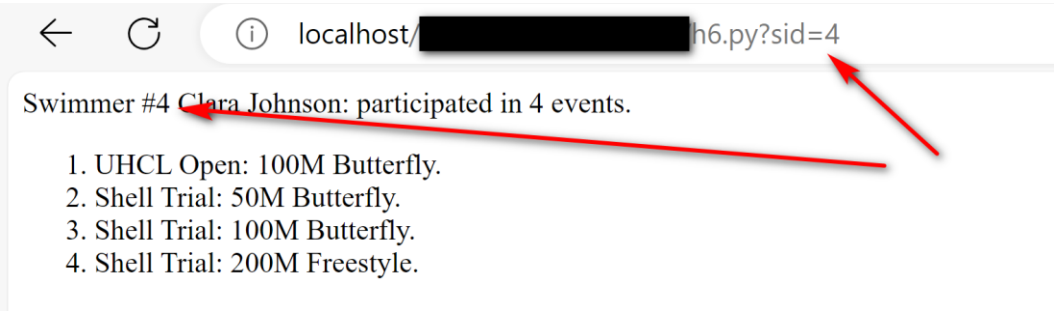
the Web application displays all swimmers in different levels in the following manner.



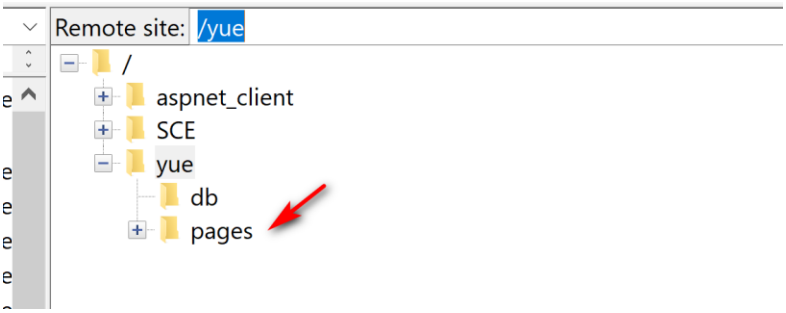
level id	level color	# swimmer	swimmers
1	Green	5	• Billy Khan: since 2015-12-12 • Nina Khan: since 2016-05-12 • Philip Johnson: since 2015-05-15 • Bobby Khan: since 2014-02-12 • Clara Johnson: since 2013-05-12
2	Blue	5	• Bobby Khan: since 2014-07-15 • Billy Khan: since 2016-04-15 (current level) • Clara Johnson: since 2014-06-01 • Philip Johnson: since 2016-03-15 (current level) • Nina Khan: since 2016-07-12 (current level)
3	Yellow	2	• Clara Johnson: since 2015-10-02 (current level) • Bobby Khan: since 2016-01-19 (current level)
4	Pink	1	• Joe Fen: since 2018-01-01
5	Orange	1	• Joe Fen: since 2018-02-14 (current level)
6	Lime	0	none
7	Purple	0	none
8	Red	0	none
9	Brown	0	none
10	Black	0	none

When a link to a swimmer is clicked, h6.py shows simple information of the swimmer in the following manner. For example, if the link for 'Clara Johnson' is followed, it will lead to the page

http://.../h6.py?sid=4



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 account 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]
```

If problems persist, you may simply include your DCM's MySQL credential *directly* in h6.py.

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>>
database: swim
```

The account dbguest has been created with read privilege to both toyu and swim databases.

In your program, the first line should be a comment on the URL of your uploaded submission in the server dcm. For example:

Program url: http://dcm.uhcl.edu/c433324sp01yueb/h6.py

Submit the Python code to the TA so she can grade your work. She can copy and paste the URL in a browser for viewing.