

Introduction to Database Systems

Individual Homework 0

1. Task

The purpose of this homework is to help you prepare for upcoming homework and onsite exam on SQL. You need to install MySQL on your computer and run the SQL script we provide, then take a screenshot. Homework details are explained below:

1.1 Install MySQL

We strongly suggest you to install MySQL on a linux machine (e.g. ubuntu), which will be the environment we use in the onsite exam. (If you do not have a linux machine, try to create a virtual machine on your computer.) You **can** install MySQL with other operating systems though, as long as the result is correct. We only provide instruction on installing MySQL on a ubuntu machine here, feel free to ask in the homework discussion channel if you have any problem installing MySQL.

To install MySQL on a ubuntu machine:

1. open a terminal
2. enter command `sudo apt-get update`
3. enter command `sudo apt-get install mysql-server`

If no error occurs, the MySQL server is successfully installed on your machine. You can now enter the MySQL shell. By default, the root user of MySQL has no password.

4. enter command `sudo mysql -u root -p`
5. you will then be asked to enter password (you may need to enter the sudo password first), just press enter to enter the MySQL shell

You are now in the MySQL shell.

```
angusky@PC-KYL:/data/courses/DBMS/HW0$ sudo mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 4
Server version: 5.7.29-0ubuntu0.18.04.1 (Ubuntu)

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> █
```

1.2 Create a database and load file

Now create a new database for testing:

1. enter command `CREATE DATABASE hw0;`
2. change to the database you just created, enter command `USE hw0`
3. run the SQL script provided, enter command `SOURCE create_table.sql`, make sure the .sql file and .csv files are under the directory you start the MySQL shell (there may be some warnings, no worries)

Now the data are loaded into the database, you can enter `SHOW TABLES;` to check tables in database.

1.3 Test the database

After you load the data into database, run this SQL query:

```
SELECT mask.adult_mask_num, mask.data_time FROM mask
WHERE mask.inst_id = 5946012241 AND DATE(mask.data_time) = '2020-02-24';
```

Take a screenshot of your result.

adult_mask_num	data_time
0	2020-02-22 06:00:37
0	2020-02-22 08:00:37
393	2020-02-22 10:00:38
269	2020-02-22 12:00:37
269	2020-02-22 14:00:37
253	2020-02-22 16:00:37
193	2020-02-22 18:00:37
179	2020-02-22 20:00:37
173	2020-02-22 22:00:37

Example of the screenshot result, **NOT** answer.

2. Discussion

TAs had opened a channel **HW0 討論區** on Microsoft Teams of the course, you can ask questions about the homework in the channel. TAs will answer questions in the channel as soon as possible.

Discussion rules:

1. Do not ask for answer of the homework (probably no need to worry in this homework).
2. Check if someone had asked the question you have before asking.
3. We encourage you to answer other students' questions, but again, do not give the answer of the homework. Reply the messages to answer questions.
4. Since we have this discussion channel, do not send email to ask questions about the homework unless the questions are personal and you do not want to ask publicly.

3. Submission

1. The deadline of this homework is **3/25 23:59:59**.
2. You only need to submit one screenshot in this homework.
3. Submit your screenshot on E3 with the format **HW0_XXXXXXX.jpg/jpeg** where XXXXXXXX is your student ID, wrong format or naming format cause -10 points to your score (after considering late submission penalty).
4. Late submission lead to score of $(\text{original score}) \times 0.85^{\text{days}}$, for example, if you submit your homework right after the deadline, your get $(\text{original score}) \times 0.85$ points.
5. If there is anything you are not sure about submission, ask in the discussion channel.