

## DBMS 2024 Fall Homework 2

繳交期限：10/20 23:59

繳交平台：Moodle

目的：運用 MySQL 資料庫管理系統及 MySQL WorkBench 圖形介面，學習實作 SQL

參考資料：

(1) 上課投影片 SQL.ppt.

(2) MySQL Tutorial for Beginners [https://www.youtube.com/watch?v=7S\\_tz1z\\_5bA](https://www.youtube.com/watch?v=7S_tz1z_5bA)

(3) <https://www.youtube.com/@mysql/videos>

題目：

一、請啟動 MySQL，執行 MySQL Workbench 並 Connect MySQL Server。

二、如果 HW1 的 Database 不在 Server 中，可 double click HW1 匯出的 sql 檔，此 sql 檔就會出現在 MySQL Workbench。執行此 sql 檔，就會匯入 HW1 create 好的 Database。

三、請設計下列查詢，每個查詢另存為[題號].sql，例如 Q01.sql 另存查詢的方法可點選 MySQL Workbench 上方的功能表[File]中的[Save Script As]。

Q01: Retrieve the first name, last name, birthday, address of all female employees.

Q02: Retrieve the first name, last name, department name and address of all male employees.

Q03: Select all combinations of employee's first name, last name, gender and department name in the database.

Q04: For each project controlled by "Research" department, list the project name, the controlling department name, the department manager's first name and last name. last name, and address.

Q05: For each project controlled by "Research" department, list the project name, the controlling department name, and the last name, first name of employees who work on that project.

Q06: For each employee, retrieve the employee's first and last name and the first and last name of his or her immediate subordinates.

Q07: Retrieve the first name, last name, and society security number of employees who either as a worker of the project ProductX or as a manager of the department that controls the project ProductX.

- Q08: Retrieve the first name, last name, society security number and address of employees whose address is in Houston, ordered by society security number in ascending order.
- Q09: Show the first name, last name, and resulting salaries if every employee working for the “Research” department is given a 15 percent raise, except the department manager.
- Q10: Retrieve the names of employees who have no dependents.
- Q11: Retrieve the name of each employee who has a dependent with the same first name and same sex as the employee.
- Q12: List the names of managers who have at least one dependent.
- Q13: Retrieve the names of all employees who works on two or more projects.
- Q14: Select the social security number and the name of each employee who works on some project that employee whose SSN = ‘123456789’ works on.
- Q15: Select the social security number and the name of each employee who works on all projects that employee whose SSN = ‘123456789’ works on.
- Q16: List the names of employees whose salary is greater than the salary of all the employees in department 5.
- Q17: Retrieve the names of all employees who have no subordinates.
- Q18: Find the sum, maximum salary, the minimum salary, and the average salary among all employees.
- Q19: For each department, list the department name, the number of employees, sum of salary, maximum salary, the minimum salary, and the average salary.
- Q20: For each project, retrieve the project number, project name, and the number of employees who work on that project.
- Q21: For each project on which more than 2 employees work, retrieve the project number, project name, and the number of employees who work on that project.
- Q23: For each department that has more than 2 employees, retrieve the department number and the number of its employees who are making more than \$30,000.
- Q24: Retrieve the departments that have more than 2 employees who earn more than \$30,000.

Q25: Retrieve the names and salaries of employees who salaries are the lowest in the company.

Q26: (此題不需繳交)請比較上課投影片 pp. 62 三個 SQL query 的執行結果，並思考其異同。

四、HW2 作業繳交時，請將這 25 個 Q\*\*.sql 檔連同 HW1 匯出的 sql 檔案，一起壓縮成 zip 檔。Zip 檔的檔名為[學號]+HW2.zip。例如學號若是 111753122，則將 Q01.sql, Q02.sql, ..., Q27.sql 連同 HW1 匯出的 111753122DB.sql，一起壓縮成 111753122HW2.zip。