

## DBMS 2023 Homework 2

繳交期限：03/26 23:59

繳交平台：WM5

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]。請注意在 MySQL 中，字串是以 double quotation，而非 single quotation 表示。例如"Smith"，而非'Smith'。此外，MySQL 沒有提供 Except，只能透過 Left Outer Join 來做到 Set Difference (請參考上課投影片 SQL.ppt 中的 SQL JOIN)。

Q01: Retrieve the name and address of all employees who work for the "Research" department.

Q02: For every project located in "Stafford", list the project number, the controlling department number, and the department manager's last name, address, and birthday.

Q03: Retrieve the name of each employee who works on all the projects controlled by department number 5.

Q04: Make a list of all project numbers for projects that involve an employee whose last name is "Wong", either as a worker or as a manager of the department that controls the project.

Q05: For each employee, retrieve the employee's first and last name and the first and last name of his or her immediate supervisor.

Q06: Select all Employees' SSNs and Department Number.

Q07: Select all combinations of Employee SSN and Department Name in the database

Q08: Retrieve all distinct salary values.

Q09: Retrieve all employees whose address is in Houston, TX.

Q10: Show the resulting salaries if every employee working for the “Research” department is given a 15 percent raise.

Q11: Retrieve a list of employees and the projects they are working on, ordered by descending order of department and ascending order on LName, FName.

Q12: Retrieve the name of each employee who has a dependent with the same first name and same sex as the employee.

Q13: Retrieve the names of employees who have no dependents.

Q14: List the names of managers who have at least one dependent.

Q15: Retrieve names of all employees who have two or more dependents.

Q16: Select the social security numbers of all employee who work the same project on some project that employee whose SSN = ‘123456789’ works on

Q17: List the names of employees whose salary is greater than the salary of all the employees in department 5.

Q18: Find the sum, maximum salary, the minimum salary, and the average salary among all employees.

Q19: Find the sum of salary, maximum salary, the minimum salary, and the average salary among employees who work for the 'Research' department.

Q20: Find the number of employees in the 'Research' department

Q21: For each department, retrieve the department number, the number of employees in the department, and their average salary

Q22: For each project, retrieve the project number, project name, and the number of employees who work on that project.

Q23: 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.

Q24: For each project, retrieve project number, project name, the number of employees from

department 5 who work on the project

Q25: 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.

Q26: retrieve the departments that have more than 2 employees who each earn more than \$30,000.

Q27: Retrieve the name of each employee who works on all the projects controlled by department number 5.

四、HW2 作業繳交時，請將這 27 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。