

# 4/15(四) SQL 上機考

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- 操作環境
- 注意事項
- 題目

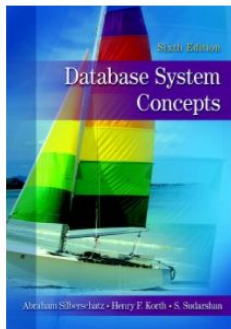
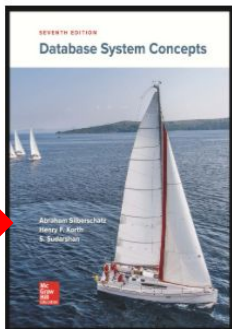
# 操作環境

- <https://www.db-book.com/>

← → ↺ 🏠 db-book.com

Welcome to the Web Pages supporting **Database System Concepts**

The Seventh Edition of the book was released in March 2019.



db-book.com/db7/index.html

**Database System Concepts**  
*Seventh Edition*

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[Henry F. Korth](#)  
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Face The Real World of Database Systems Fully Equipped

Welcome to the home page of **Database System Concepts, Seventh Edition**. This new edition, published by [McGraw-Hill](#), was released in March 2019.

- [What is New in The Seventh Edition](#)
- Online book content
  - [Table of Contents](#)
  - [Preface](#)
  - [Online Chapters](#)
  - [Bibliography](#)
- [Slides](#)
- [Solutions to Practice Exercises](#)
- [Laboratory material](#)
  - (New) [Run SQL queries directly in your browser](#) (based on SQLite/sql.js)
  - [Sample tables](#)
  - [Tips on using specific databases \(PostgreSQL, MySQL, Oracle, SQLite, etc.\)](#)
  - [Sample lab exercises and term projects](#)
- [Information for Instructors](#)
- [Errata and Updates](#)

If you wish to see the covers of all the previous editions please [click here](#).

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If you have any comments on the material, please send mail to [db-book-authors@cs.yale.edu](mailto:db-book-authors@cs.yale.edu)

# 操作環境

- <https://www.db-book.com/db7/university-lab-dir/sqljs.html>

The screenshot shows a web browser window with the address bar displaying `db-book.com/db7/university-lab-dir/sqljs.html`. The page title is "Online SQL interpreter". Below the title, there is a paragraph of text explaining that queries are run directly from a text box, using a preloaded SQLite database schema and sample data. It also provides a link for tips on using SQLite. Below the text is a text input field with the placeholder text "1 -- enter your commands here". To the right of the input field are three buttons: "Execute", "Save the db", and "Load an SQLite database file:". The "Load an SQLite database file:" button has two sub-buttons: "選擇檔案" (Select file) and "未選擇任何檔案" (No file selected). Below these buttons is a table with two columns: "name" and "sql". The table contains two rows of SQL code: one for creating a "classroom" table and one for creating a "department" table.

Online SQL interpreter

Run queries directly from the text box below; the university database schema and sample data have been preloaded. (Note: page may take a few seconds to load initially.). All query processing is done right in your browser using the SQLite database. Save the database and load it later, if you want your data to persist when you close the browser tab. Click here [for tips on using SQLite](#) including SQL syntax variations.

Enter SQL commands here

1 -- enter your commands here

Execute Save the db Load an SQLite database file: 選擇檔案 未選擇任何檔案

name	sql
classroom	CREATE TABLE classroom (building varchar(15), room_number varchar(7), capacity numeric(4,0), primary key (building, room_number) )
department	CREATE TABLE department (dept_name varchar(20), building varchar(15), budget numeric(12,2) check (budget > 0), primary key (dept_name)

# 操作環境

- 資料庫:網站預設
- 語法:SQLite(基本上跟 MySQL 一樣)
- Reference:
  - <https://www.db-book.com/>
  - <https://www.w3schools.com/sql/>

# 注意事項

- 考試時間:80分鐘(視情況調整)
- 共 11 題, 每題 10 分, 滿分 100 分(可以只寫 10 題)  
題目要求的欄位名稱請依照範例圖片來輸出
- 繳交格式
  - 請將題目所要求的 SQL 指令寫進 .txt 檔(一題一個),  
皆上傳到 E3 中的 [4/15] SQL 上機考
  - 檔名:{學號}\_{題號}.txt(例:0512345\_3.txt), 檔名錯誤則該題 0 分
- 簽到
  - 簽到時, 請拿出學生證讓助教確認
  - 若要提早離開, 請確認自己已經簽到

- Q1: 請列出系所名稱 (dept\_name) 以及每個系所的講師平均薪資 (average\_salary), 並依平均薪資由多至少印出。

dept_name	average_salary
Physics	91000
Finance	85000
Elec. Eng.	80000
Comp. Sci.	77333.3333333333
Biology	72000
History	61000
Music	40000

- Q2: 請列出 2017 年秋天所有課程的課程名稱 (title) 及修課人數 (cnt), 請依照修課人數由多至少排列。

title	cnt
Intro. to Computer Science	6
Database System Concepts	2
Physical Principles	1

- Q3: 請輸出每個學生對應的指導教授名字, 並依照指導教授名字做字典序排列
- Q4: 請輸出學生修的課中不是修自己系所的課, 並列出是哪個學生、哪堂課、學生的系所、開課的系所, 並依照學生名字排序

student name	instructor name
Tanaka	Crick
Peltier	Einstein
Levy	Einstein
Zhang	Katz
Brown	Katz
Aoi	Kim
Bourikas	Kim
Chavez	Singh
Shankar	Srinivasan

name	course_id	student dept	course dept
Bourikas	CS-101	Elec. Eng.	Comp. Sci.
Bourikas	CS-315	Elec. Eng.	Comp. Sci.
Levy	CS-101	Physics	Comp. Sci.
Levy	CS-101	Physics	Comp. Sci.
Levy	CS-319	Physics	Comp. Sci.



- Q5:請找出教授的薪水大於他的系所預算的所有教授, 並且算出超出多少, 依照超出多少從大到小排序

name	more
Einstein	25000
Gold	17000
Califieri	12000
El Said	10000

- Q6:請列出各個系所開的課程數量, 並依數量多寡由多至少排序

dept_name	num_course
Comp. Sci.	5
Biology	3
Elec. Eng.	1
Finance	1
History	1
Music	1
Physics	1

- Q7:請列出所有有先修課程的課, 需列出該堂課的ID、名稱以及其先修課的ID、名稱

course_id	course_title	prereq_id	prereq_title
BIO-301	Genetics	BIO-101	Intro. to Biology
BIO-399	Computational Biology	BIO-101	Intro. to Biology
CS-190	Game Design	CS-101	Intro. to Computer Science
CS-315	Robotics	CS-101	Intro. to Computer Science
CS-319	Image Processing	CS-101	Intro. to Computer Science
CS-347	Database System Concepts	CS-101	Intro. to Computer Science
EE-181	Intro. to Digital Systems	PHY-101	Physical Principles

- Q8:請列出有修指導教授教的課的學生名字以及該門課的課堂名稱

student_name	course_title
Zhang	Intro. to Computer Science
Shankar	Intro. to Computer Science
Shankar	Robotics
Shankar	Database System Concepts
Peltier	Physical Principles
Brown	Intro. to Computer Science
Brown	Image Processing
Aoi	Intro. to Digital Systems
Tanaka	Intro. to Biology
Tanaka	Genetics

- Q9:請列出 "Shankar" 這位學生在2017年秋天在哪個時間點必須到哪棟大樓的哪間教室上課

time_slot_id	building	room_number
H	Packard	101
A	Taylor	3128

- Q10: 請列出 "Srinivasan" 這位教授在 2017 年秋天每周三教課的總時數 (單位: 分鐘)

<b>sum(total)</b>
200

- Q11: 請列出每門課的課名及各年合計的及格率(F 算不及格, 空值代表還沒有修完, 不要統計到它, 單位為%, 計算到整數)

<b>course_id</b>	<b>pass_rate</b>
BIO-101	100
CS-101	85
CS-190	100
CS-315	100
CS-319	100
CS-347	100
EE-181	100
FIN-201	100
HIS-351	100
MU-199	100
PHY-101	100

# 試題結束

離開前...

- 請確認自己已經簽到
- 請帶走個人物品，勿留下垃圾

