



Easy Education

COMP3311/9311 公开课

讲师: Rey





今日内容

CONTENTS

1. 自我介绍
2. 课程大纲讲解
3. 周内容讲解
4. 辅导课程安排





自我介绍

CONTENTS

- UNSW MIT在读
- 全科均分HD
- 工作经验:
 - 脚本工程师 (全职, 广州纵思网络2016.10~2017.3)
 - 数据分析运营 (全职, 广东省联通互联网部2017.3~2018.10)
 - UNSW Notetaker (兼职, 2019~至今)
 - 辅导机构tutor (兼职, 2019~至今)
- 授课特点:
 - 实用至上
 - 实际->理论
 - 一切以拿高分为目标





课程介绍

CONTENTS

COMP9311 与 COMP3311:

- 课程侧重点
- 大纲
- 评分标准





2. COMP9311

- 每周教学内容
- 重要节点

#	Lecture (Monday)	Lecture (Tuesday)	Labs	Assessments
1	Subject Introduction, Conceptual DB Design (ER)	Relational Data Model	No Lab	
2	ER to Relational Model Mapping	Relational Algebra	Lab01 – setting up a database server	Assignment 1: Data Modelling and Relational Algebra
3	SQL	SQL (continue)	Lab02 – schema definition and data constraints	
4	Public Holiday No Lecture	PLpgsql	Lab03 – SQL queries and view definitions	Assignment 1 Due Project 1: SQL
5	Functional Dependencies	Normal Forms	Lab04 – more SQL practice	
7	Relational DB Design	Disks, Files, Index	Lab05 - SQL/PLpgsql functions	Project 1 Due
8	Transaction Management	Transaction Management (continue)	Lab06 - database triggers	Assignment 2: DB Design Theory, Database Storage Structures and Transaction
9	Query Processing	NoSQL Data Models	Lab07 - relational design theory	
10	Research Topics	Revision	Lab08 - a practice on SQLite (an alternative DB)	Assignment 2 Due





2. COMP3311

- 每周教学内容
- 重要节点

Week	Lectures	Tutes	Prac Work	Assignments	Quizzes	Notes
1	Course intro, Data Modelling, ER diagrams	Welcome	Set up PostgreSQL server	-	-	-
2	Relational Model, SQL DDL, Mapping ER to SQL	Data modelling, ER	Defining a database	-	Quiz 1	-
3	SQL (i)	ER -> SQL	Simple SQL	-	Quiz 2	-
4	SQL (ii), PLpgsql(i)	SQL	More interesting SQL	Ass1 due	Quiz 3	-
5	PLpgsql (ii), Triggers, Aggregates	PLpgsql functions	PLpgsql functions	-	Quiz 4	-
6	Flexibility Week	-	-	-	-	-
7	DB/PL interaction, Python, Psycopg2	Triggers	Aggregates	Ass 2 due	Quiz 5	-
8	Functional dependencies, Normalization	Psycopg2	Python meets SQL	-	Quiz 6	-
9	Relational Algebra, Query execution, Tuning	Normalization	-	-	Quiz 7	-
10	Transactions, Concurrency control, Database futures, Course review	Relational algebra	Sample exam	Ass 3 due	Quiz 8	-



评分标准

CONTENTS

3. COMP9311课程评分

Number	Name	Full Mark
1	Assignment 1: Data Modelling + Relational Algebra	25
2	Assignment 2: DB design Theory + Transaction	25
3	Project 1	50
4	Final Exam	100

The final mark is calculated by the harmonic mean:

Final Mark= $2 * (\text{ass1} + \text{ass2} + \text{proj1}) * \text{FinalExam} / (\text{ass1} + \text{ass2} + \text{proj1} + \text{FinalExam})$





评分标准

CONTENTS

COMP3311课程评分

Item	Topics	Due	Marks	Contributes to
Quizzes	All topics	Weeks 2-10	18%	1,2,3,4,5,6,7,8
Assignment 1	SQL Schema	Week 4	12%	2
Assignment 2	SQL/PLpgSQL	Week 7	16%	3,4
Assignment 3	Python/SQL	Week 10	14%	5
Final Exam	All topics	Exam period	40%	1,2,3,4,5,6,7,8





如何学好COMP[93]311

CONTENTS

- 注意构建知识体系(系统地理解)
- 实践! 每周的practice要多练习!
- 独立完成作业, 勿要有侥幸心理;
- 课前看Notes, 做好预习;





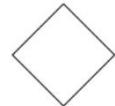
Week1核心内容讲解



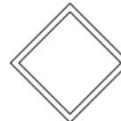
Entity Type



Weak Entity Type



Relationship Type



Identifying Relationship Type



Attribute



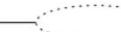
Key Attribute



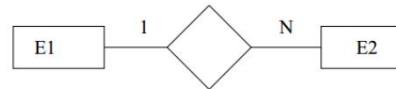
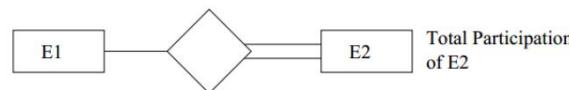
Composite Attribute



Multivalued Attribute



Derived Attribute





Week1核心内容讲解

Question 1

The CBD and South East Light Rail is a new light rail network for Sydney, currently under construction. The 12km route will feature 19 stops, extending from Circular Quay along George Street to Central Station, through Surry Hills to Moore Park, then to Kensington and Kingsford via Anzac Parade and Randwick via Alison Road and High Street. Construction will be completed, and services will start running in 2019.

As part of a Public Private Partnership with the NSW State Government, the construction company ACCIONA is responsible for delivering the infrastructure for this iconic addition to Sydney's transport network and a key initiative of Sydney's Long-Term Transport Master Plan, thus playing an important role in the light rail construction. In order to improve the management efficiency, the construction manager should be very familiar with the construction teams. Please help the manager to draw an ER diagram based on the following specifications about the construction company ACCIONA. State your assumptions if any.

- The company has multiple construction teams, identified by their team id. Team name is also recorded. Each team has zero or more workers, only one of which is the team leader. In addition, each team has at least one vehicle.
- A worker must work only in one team and is identified by his/her id. We also need to record the name, phone number and salary. Each leader can only lead one team to guarantee work quality. Drivers and team leader are workers as well.
- Each vehicle is identified by its plate number. Its model, colour and purchase date are also recorded.
- Each vehicle has different drivers and a driver may drive different vehicles. Some vehicles may not be owned by any team but must be owned by only one team if any.
- The company receives construction orders identified by order ID, construction location, working duration and price. Each order is conducted by multiple teams and a team can conduct only one order.

Draw an ER diagram to represent this scenario, and clearly state the assumptions you make if any.





Week2 Preview



COMP3311

- Quiz讲解
- ER to RDM

COMP9311

- Relational Algebra
- ER to RDM

Construction Order

Order ID	Const. Location	Price	Work Duration
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Construction Team

Team ID	Team Name	T_Leader ID	Order ID
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Worker

Employee ID	Name	Phone Number	Salary	T_ID
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Driver

Driver ID	Vehicle Number
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Vehicle

Plate Number	T_ID	Model	Colour	Purchase Date
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课程相关资料

- Textbook
- 课件
- 往届Assignments
- 往届期末考试题

- 请扫描二维码领取



Easy 课程核心优势

- 周课前三周无条件退款
- 每周知识点、作业讲解，确保超高平时分。
- 无忧保过Final复习班，考点全覆盖，不过退全款。





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完结 撒花

