

Easy Education

COMP3311/9311 公开课

讲师: Rey



Easy Education

今日内容

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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





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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





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课程介绍

CONTENTS

COMP9311 与 COMP3311:

- 课程侧重点
- 大纲
- 评分标准





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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 |



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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, Psycpg2 | Triggers | Aggregates | Ass 2 due | Quiz 5 | - |
| 8 | Functional dependencies, Normalization | Psycpg2 | 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:

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



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 |



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如何学好COMP[93]311

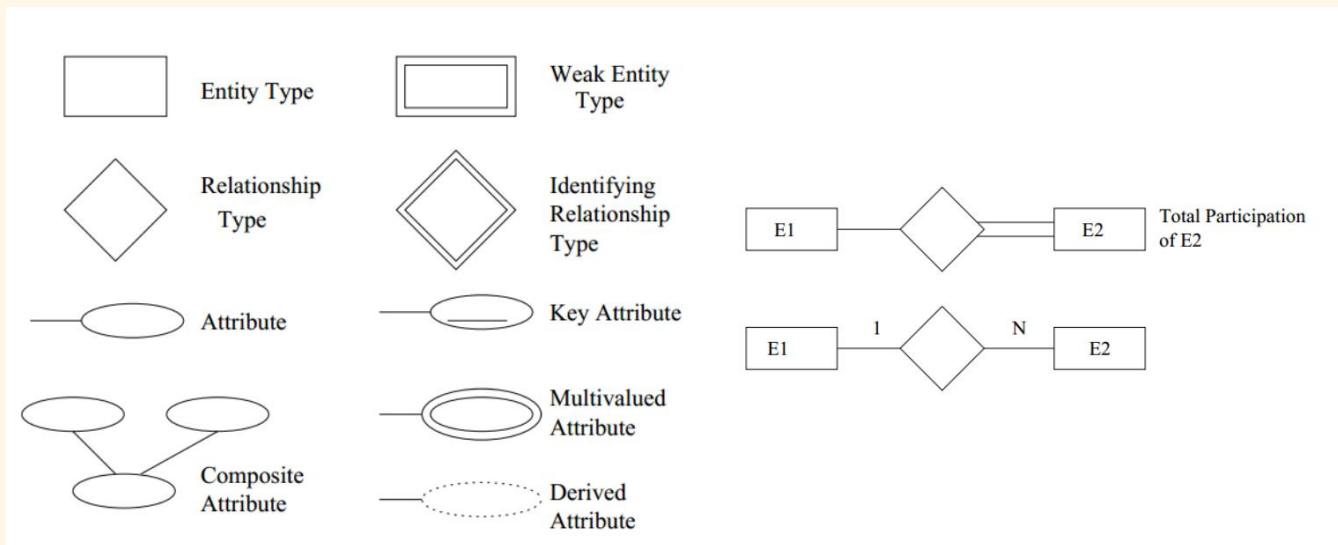
CONTENTS

- 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





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.





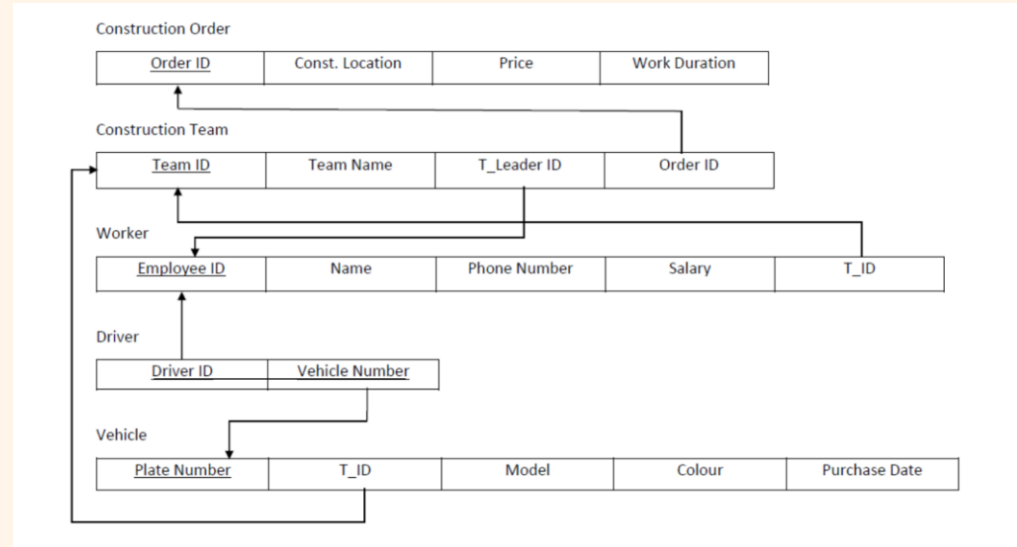
Week2 Preview

COMP3311

- Quiz讲解
- ER to RDM

COMP9311

- Relational Algebra
- ER to RDM



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👉





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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

