In this week we start to learn the unit 1 of databases1 course, the first part of the course, we are learning the theory of databases.

What is the differences between data and information?

What is database?

The history of database management system.

Types of information models.

Career path for database professionals

The relation data model

In [Discu](https://my.uopeople.edu/mod/forum/view.php?id=328566)ssion forum Unit 1, I did not read carefully professor Chinu’s question, post a wrong answer, then I read fellows classmate answer realize it, and reread the posting of professor.

In this Discussion forum, we discuss about the advantage and disadvantage of DBMS and traditional file system.

In Programing Assignment Unit 1. I designed a hospital software system to manage patient’s information. Refer to library Management System case study in chapter 3.3 of Sharma et al. (2010, 77). There are few steps to instruct us developing the conceptual model

, In this part, there are things need to mention is entity attributes constraint.

There are 5 types of constraints:

* **Entity integrity constraint**
* **Referential integrity constraint**
* **Semantic integrity constraints**
* **Domain constraint**
* **Unique constraint**

From this week activity, we do know constraints is an important part for databases, lastly, we need check constraint, A ***check constraint*** specifies a condition (a predicate) on a relation data, which is always checked when data is manipulated.

Example: an employee's salary can’t be greater than his manager's salary or a department manager can’t have more that 20 people reporting to him. For our previous relations, for example, the fabrication year of a car can’t be greater than the current year or a car can be owned by a single person.

There are typical roles and career path for database professionals, I’m studying in data science certificate course. I prefer being a Data Architect in future.

Some fundamental skills of a Data Architect are:

* Logical Data modeling
* Physical Data modeling
* Development of a data strategy and associated policies
* Selection of capabilities and systems to meet business information needs

Refer to position description SEEK Australia, Data Architect position:

https://www.seek.com.au/job/59123583?type=standard#sol=34bf9f4790753e7a4479c97ef43bf3fcafaeab69

Key responsibilities include -

* Identify, develop, publish, and communicate information management technology standards, frameworks, principles, reference architectures, strategies, and roadmaps to be used throughout the organisation to guide technology & business decisions.
* Provide expert technical input into IT/Digital strategy, information governance and information quality initiatives.
* Determine logical designs and develop strategies necessary to store, move and manage information/data into consumable assets.
* Develop data dictionary, enterprise data models that ensure new platforms are configured in a manner that enables enterprise-wide deployment supporting reuse of business process and information architecture/design patterns.
* Oversee the mapping of data sources, data movement, interfaces, and analytics, with the goal of ensuring data quality.
* Ascertain risks pertaining to data management practices and work closely with the Data Management Office to mitigate risks.

**References**

Sharma, N., Perniu, L., Chong, R. F., Iyer, A., Nandan, C., Mitea, A. C., Nonvinkere, M., & Danubianu, M. (2010). *Databases fundamentals*. (pp. 23 - 46)

Watt, A., & Eng, N. (2014). *Database design*,  2nd ed. BCcampus, BC Open Textbook Project. (pp. 1 - 27)