

COMM1822

Term 2 2022

Introduction to Databases for Business Analytics

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Week 1 Introduction

<https://powcoder.com>

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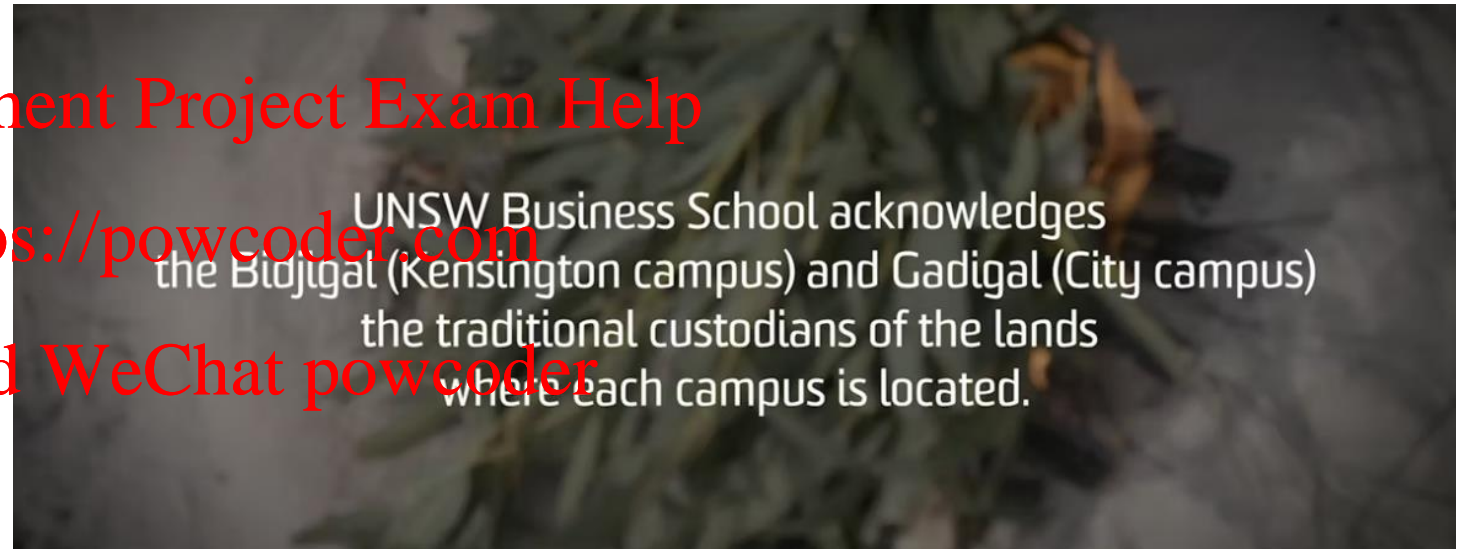
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We acknowledge all Aboriginal and Torres Strait Islander Elders, past and present and their communities who have shared and practiced their teachings over thousands of years including business practices.

We recognise Aboriginal and Torres Strait Islander people's ongoing leadership and contributions, including to business, education and industry.



UNSW Business School. (2022, May 7). *Acknowledgement of Country* [online video]. Retrieved from <https://vimeo.com/369229957/d995d8087f>

COMM1822 Lecture and Tutorial

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Plan: W1 Learnings

- **Data** vs. **information**
- Data stored in **databases**
- Database management system (DBMS)
- **Database design** defines database structure
- The next big thing: **big data**

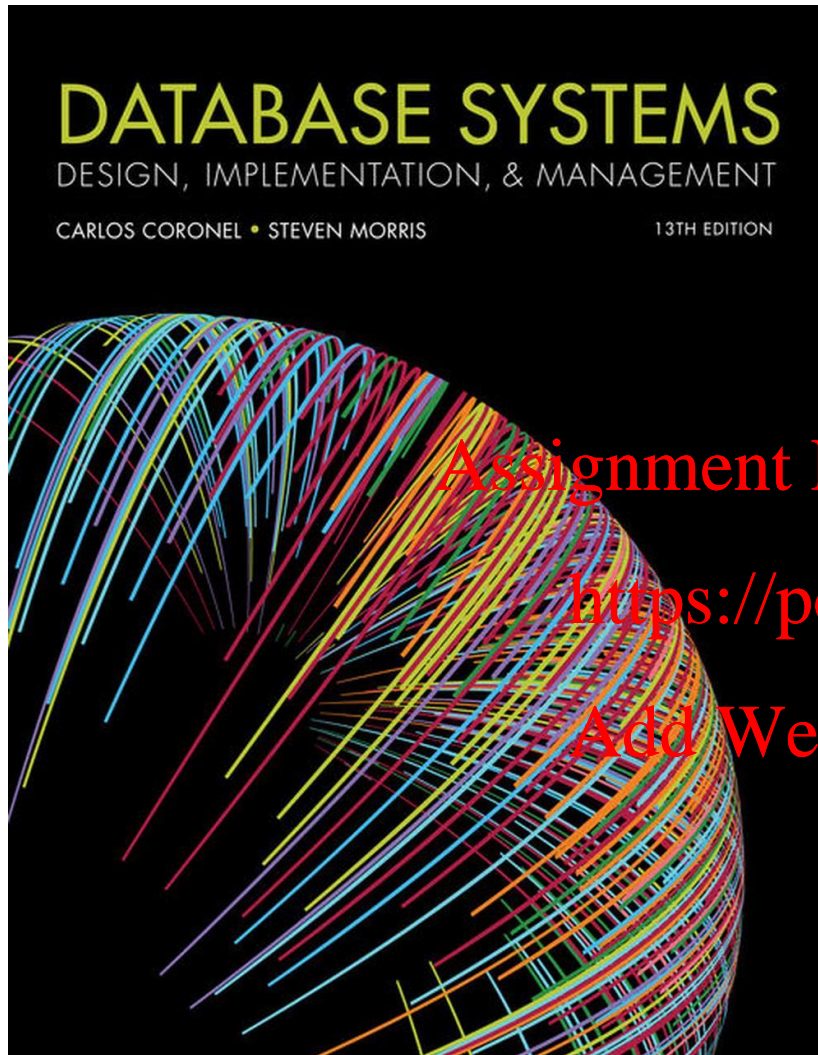
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Chapter 1 Database Systems 1-1 to 1-7

Data vs Information

Data

- Raw facts
- Have **not yet been processed** to reveal their meaning to the end user
- Building blocks of information

e.g., marks for your quiz, assignment, ..., in a course

Information

- Produced by **processing raw data** to reveal its meaning
- Requires context
- Bedrock of **knowledge**
- Should be **accurate**, **relevant**, and **timely** to enable good decision making

e.g., WAM (Weighted Average Mark) -> How you did at UNSW

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Introducing Database

- A shared, integrated computer structure that stores a collection of:
 - **End-user data** – Raw facts of interest to end user
 - **Metadata**: “Data about data”, which the end-user data are integrated and managed
 - ❑ **Describe data characteristics and relationships** ← Interested in
- **Database management system (DBMS)**
 - Collection of programs
 - Manages the database structure
 - Controls access to data stored in the database

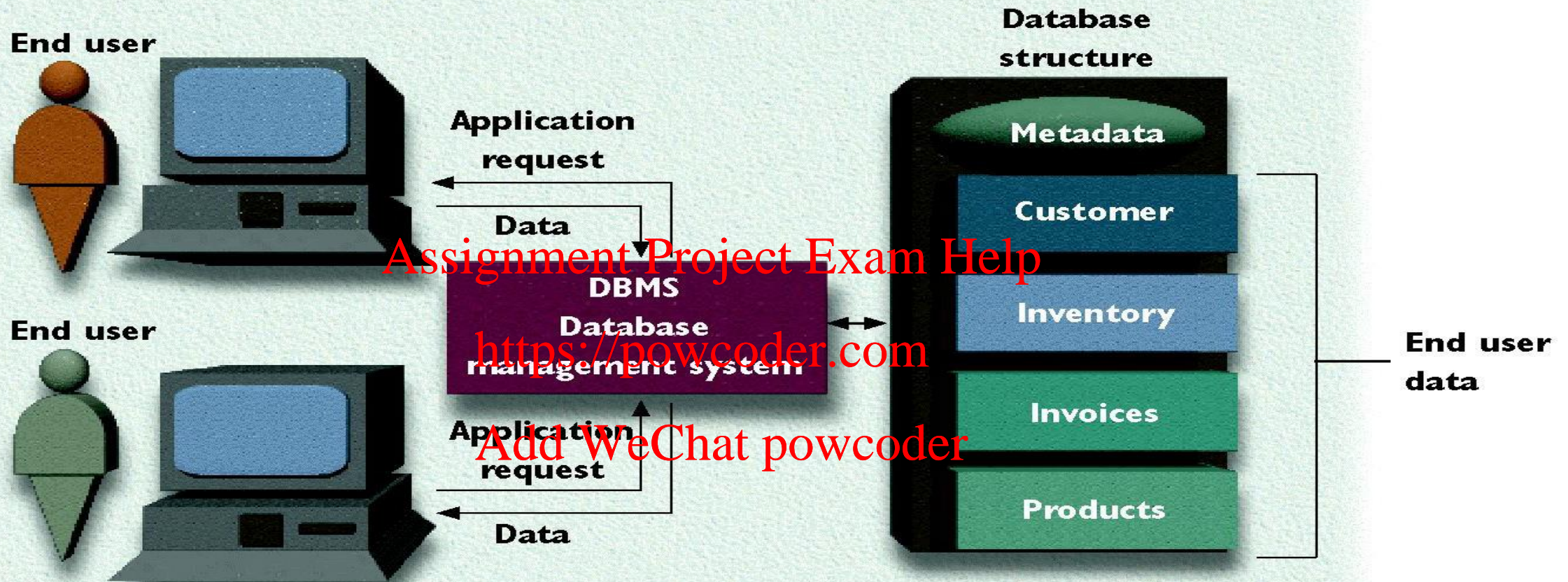
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Artificial Intelligence Chat powered by

Like a steward

e.g., a set of dates
→ Start of a project,
Evaluation of the
progress, End of the
project, ...

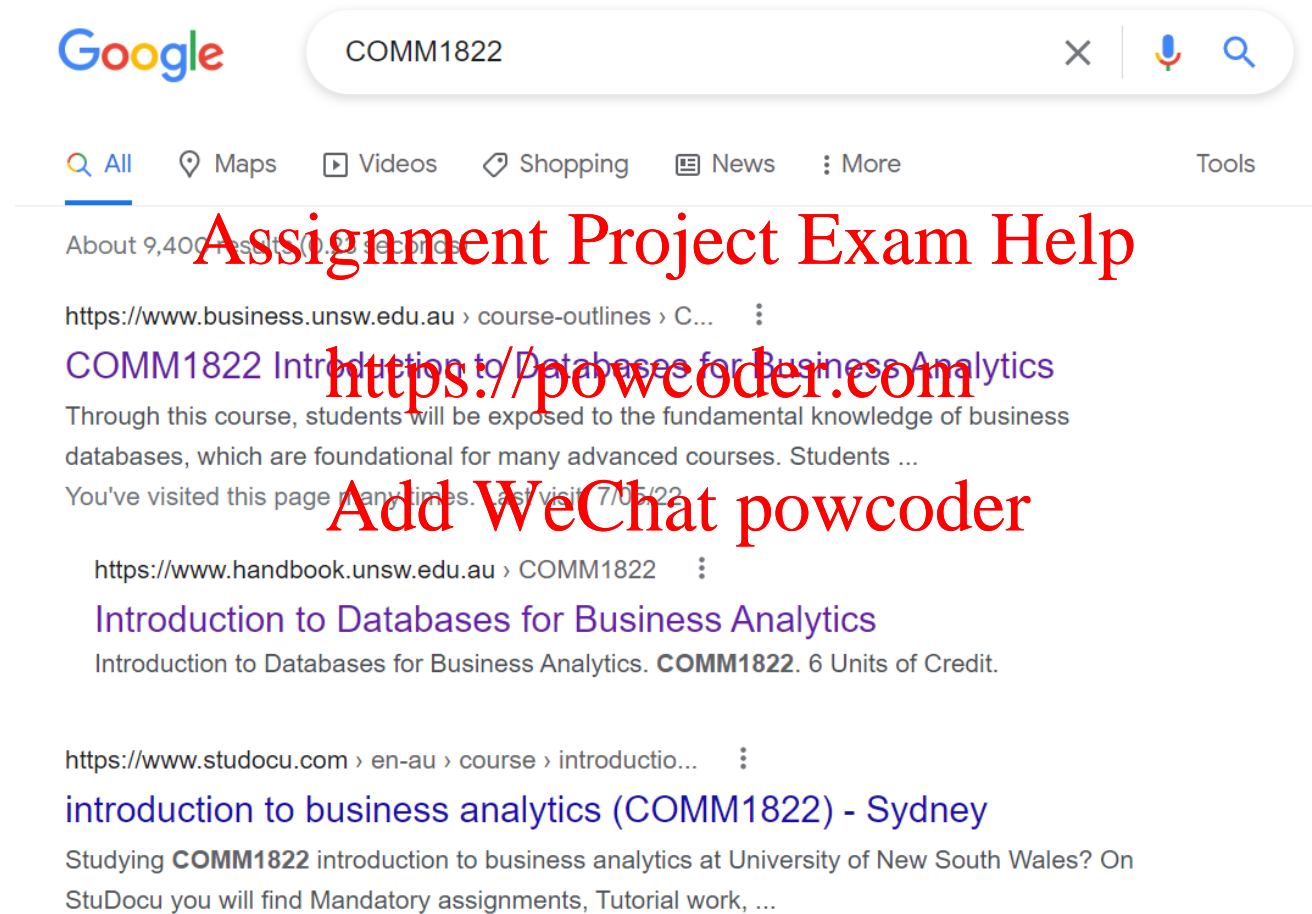


Metadata (Data Dictionary) Example

Data Item		Value			
Name	Type	Length	Min	Max	Description
Course	Alphanumeric	100			CourseID and Name
Class	Integer	1	1	9	Class Number
Semester	Alphanumeric	10			Semester and Year
Name	Alphanumeric	50			Student Name
ID	Integer	7			Student ID

Alice Tomson (zID: 1234567) takes COMM1822 Introduction to Databases for Business Analytics (Class: 1) in Term 2 2022.

Data in Context: Google



Data in Context: Apple

iPhone 13 Pro From A\$1,699

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Basic Terminology

- **Character**: Most basic element of data.
- **Field**: Contains data (composed of characters).
- **Record**: Set of related fields.
- **Database**: Collects related records.
- **DBMS**: Manages the database.

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ID	First Name	Last Name	B.O.B.	Address	Social Security
1	John	Smith	6/1/2001	321 Sydney Road	0101234567
2	John	Smith	6/1/2001	201 Monroe Avenue	0014567890
3	John	Smith	1/24/57	01234 Mainline Drive	1234567890
4	Sally	Smith	3/4/66	231 Congress Drive	2004567890
5	Steve	Smith	4/23/79	1519 Ashbury Lane	1705432109

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Related records combine to create a database file

Source: psu.edu

History of Handling Data

- **Manual filing systems.** not efficient
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- Computerised filing systems via **data files**.
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- **Database systems.** Add WeChat powcoder
more efficiently



Source: bizfluent.com

Advantages of Database Systems

- **Reduced data inconsistency** and **anomalies**.
- **Reduced data redundancy** and improved data sharing. e.g. data storage
- Increased application development **productivity**.
- **Reduced data structural dependency** problems. <https://powcoder.com>
- **Easier** to create, access, modify and delete data.
- Enforcement of **standards**. e.g., Marketing & Business Analytics Departments using the same dataset
- Central **security**. e.g. who can access what data – someone can write/modify data; someone can only read data
- Standardized **backup** and **recovery**.
- **Concurrency** handling.

Recap: W1 Learnings

- **Data vs. information**
- Data stored in **databases**
- Database management system (**DBMS**)
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- The next big thing: **big data**

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Questions



Source: tryinteract.com