Department of Occupational Health and Satety
Faculty of Health and Sport Science

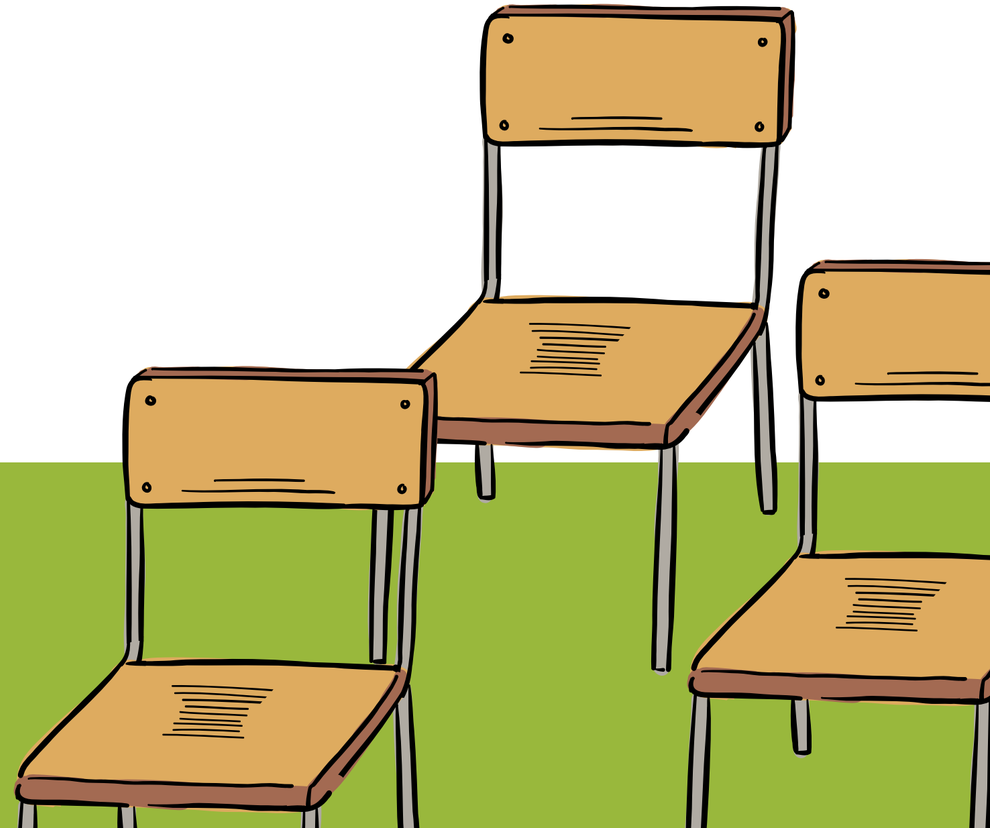
Database design for healthcare system

Dr Kanida Sinmai
Department of Computer and Information Technology
Faculty of Science

Course Outline

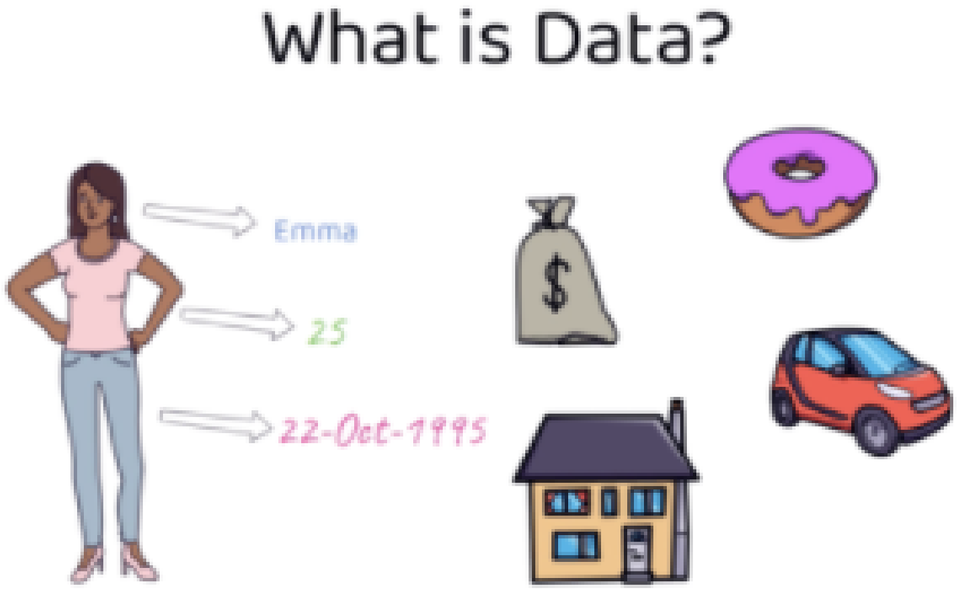
What is Database

Practical



What is DATA?

In general, data is any set of characters that is gathered and translated for some purpose, usually analysis.
If data is not put into context, it doesn't do anything to a human or computer.



Types of data

- Single character
- Boolean (true or false)
- Text (string)
- Number (integer or floating-point)
- Picture
- Sound
- Video

DATA

In a computer's storage, digital data is a series of **bits** (binary digits) that have the value one or zero.

Data is processed by the CPU, which uses logical operations to produce new data (output) from source data (input).

What is Database?

- A collection of organized information on a particular subject.
- It is organized so that queries and reports based on the information can be readily performed.
- Common examples of databases:
  - telephone book
  - Student records

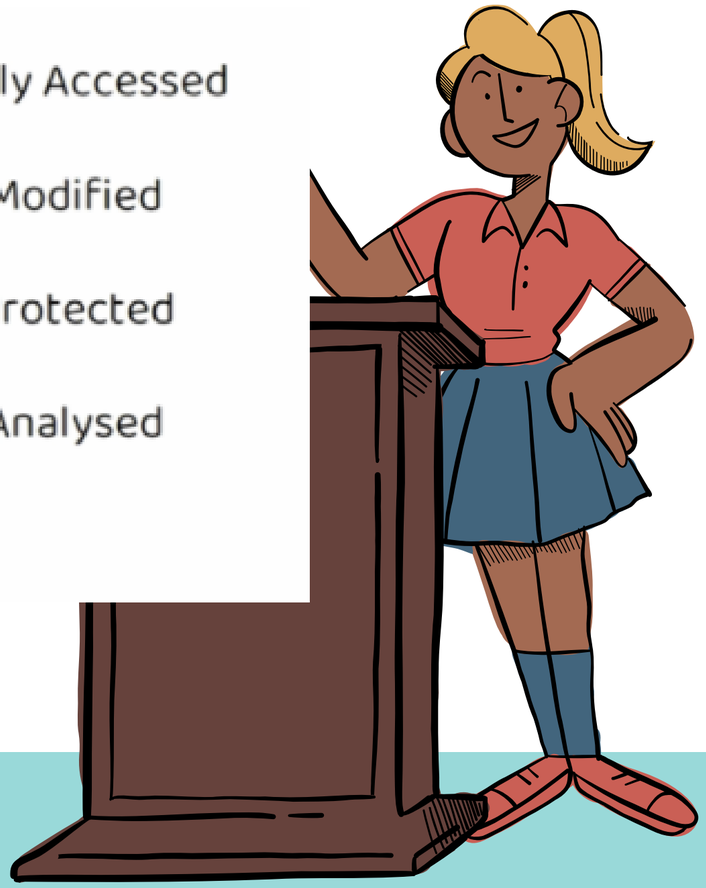
What is Database?

Easily Accessed

Modified

Protected

Analysed



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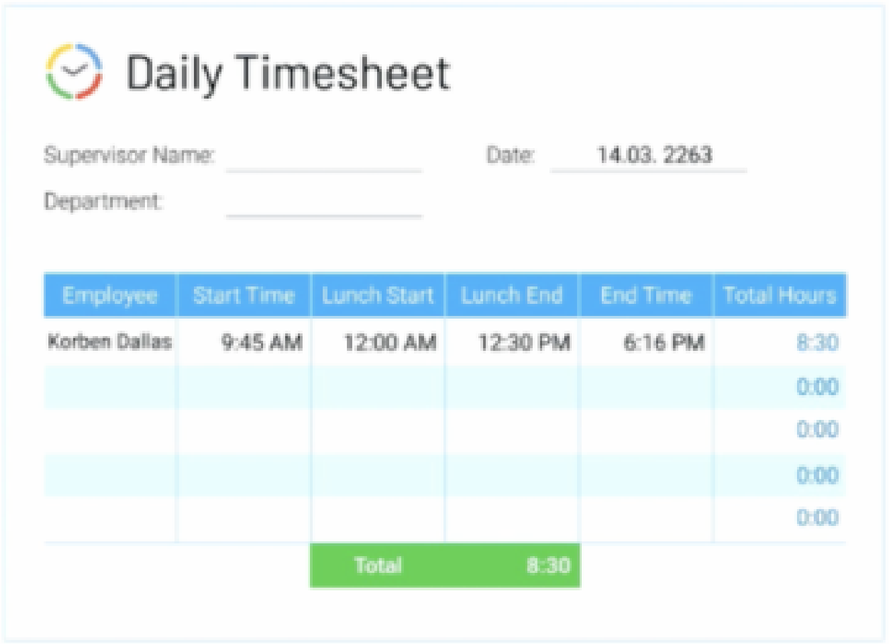


Daily Timesheet

Supervisor Name: _____ Date: 14.03. 2263

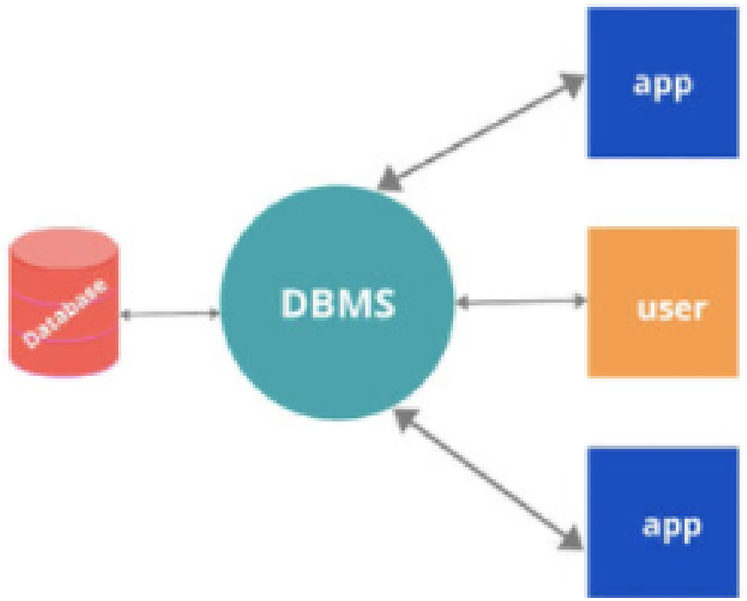
Department: _____

Employee	Start Time	Lunch Start	Lunch End	End Time	Total Hours
Korben Dallas	9:45 AM	12:00 AM	12:30 PM	6:16 PM	8:30
					0:00
					0:00
					0:00
					0:00
		Total	8:30		

What is DBMS?

A database management system is a collection of software for managing the database and contains software for organizing the data and verifying it, as well as software for retrieving the data through queries as well as creating reports based on the data.

DBMS ≠ DATABASE ?



DBMS

Fast forward to 2020,
In today's world, there are mainly 2 popular database types.
- Relational Database
- Non-Relational Database (or NoSQL Database)

TABLE 1	COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4	COLUMN 5
ROW 1	data	data	data	data	data
ROW 2	data	data	data	data	data
ROW 3	data	data	data	data	data
ROW 4	data	data	data	data	data

NAME	ID	DATE_OF_BIRTH	ADDRESS	GENDER	PHONE
Aaron Paul	D1	05-Jul-86	Kuala Lumpur	M	60169990102
Lara Croft	D2	01-Oct-98	Bangalore	F	9774755019
Ruth Langmore	D3	23-May-01	Singapore	F	6545459898

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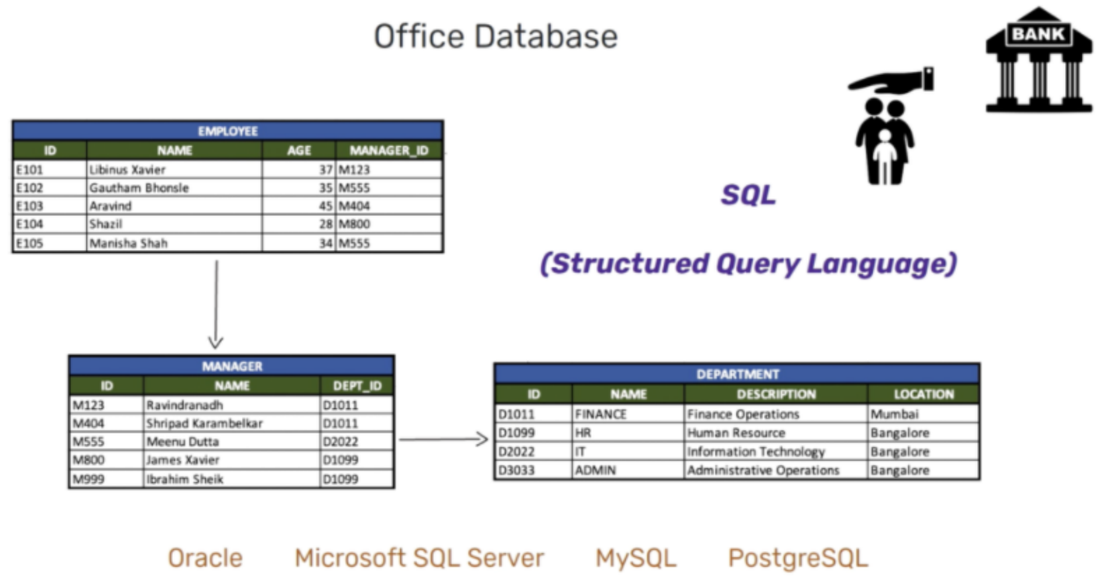
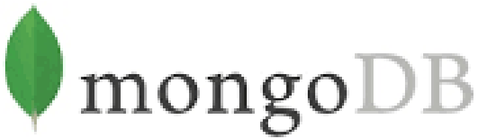
Ruth Langmore	D3	23-May-01	Singapore	F	6545459898
Emma Watson	D4				

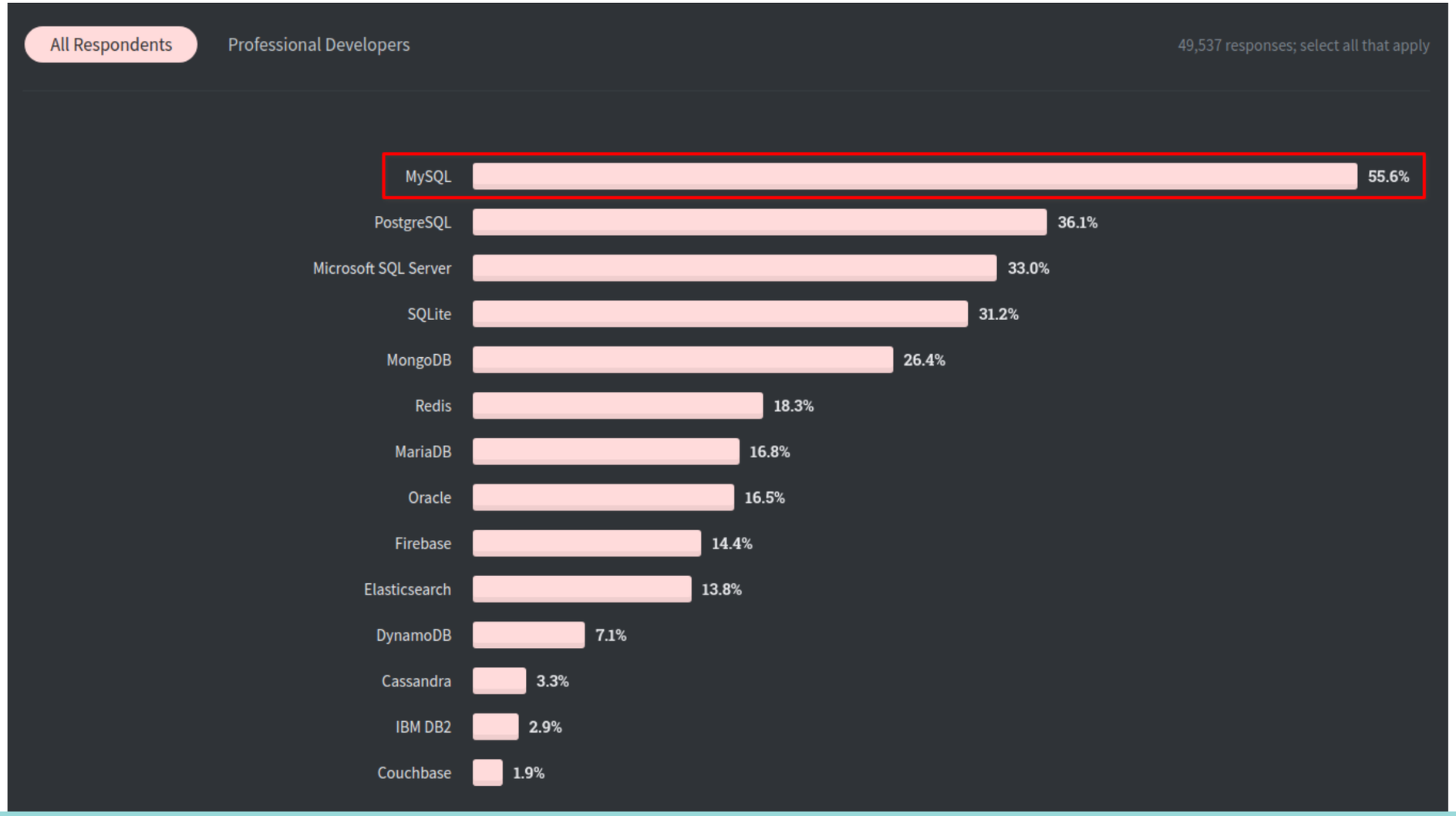
KEY	VALUE
Employee_ID	EMP_1002398_C1
Status	Active
Salary	25000
Joining_Date	17-Feb-2016
Details	{ "Location": "New York", "Project": "NewStore", "Skills": ["SQL", "Python"] }



DBMS



DBMS


All Respondents
Professional Developers
49,537 responses; select all that apply
MySQL 55.6%
PostgreSQL 36.1%
Microsoft SQL Server 33.0%
SQLite 31.2%
MongoDB 26.4%
Redis 18.3%
MariaDB 16.8%
Oracle 16.5%
Firebase 14.4%
Elasticsearch 13.8%
DynamoDB 7.1%
Cassandra 3.3%
IBM DB2 2.9%
Couchbase 1.9%

MS Access

Tutorial

OpenData