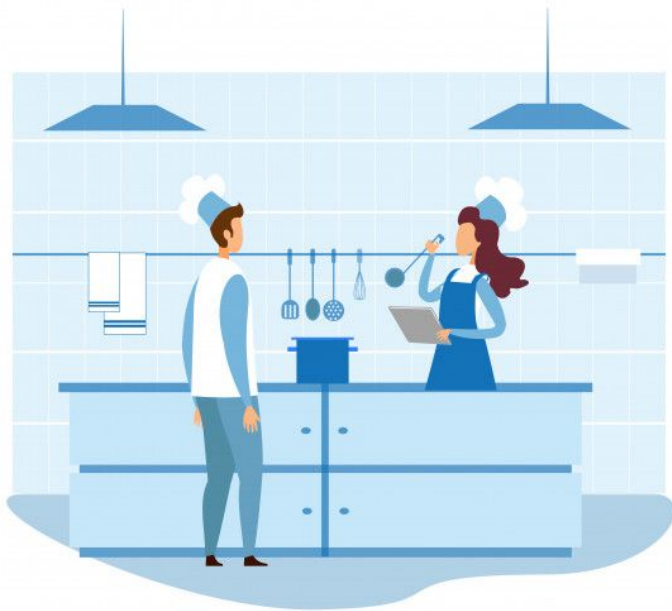# Outline

- What is a Database?
- What is a Relational Database (RDBMS)?
- SQL
- mySQL

User data

Transaction

Products Info

Stock & Inventory

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Database

- A database is an organized collection of data
- The main purpose of a database is to operate large amount of information by storing, retrieving, and managing.
- There are many dynamic websites on the world wide web nowadays which are handled through database
    - For example, a model to check to availability of rooms in a hotel

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RDBMS

- Relational Database Management Systems is a database relational model based introduced by E.F Codd in 1970
- In this model, data is represented as rows. A collection of data will look like a table with rows and columns, each with its own key
- The term "Relational" refers to a values on a table relating to other tables.
- Its structure makes it possible to run queries to access multiple tables at once

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- Reasons to use RDBMS
  - Structured Tabular Data
  - Managing data using dynamic relationship (relational join)
  - Easily query data using different properties
  - Easily do multi-line transactions

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City

ID	Name	CountryCode	District	Population
1	Kabul	AFG	Kabol	1780000
2	Qandahar	AFG	Qandahar	237500
3	Herat	AFG	Herat	186800
4	Mazar-e-Sharif	AFG	Balkh	127800
5	Amsterdam	NLD	Noord-Holland	731200
6	Rotterdam	NLD	Zuid-Holland	593321
7	Haag	NLD	Zuid-Holland	440900
8	Utrecht	NLD	Utrecht	234323
9	Eindhoven	NLD	Noord-Brabant	201843
10	Tilburg	NLD	Noord-Brabant	193238
11	Groningen	NLD	Groningen	172701
12	Breda	NLD	Noord-Brabant	160398
13	Apeldoorn	NLD	Gelderland	153491

Country

Code	Name	Continent	Region
ABW	Aruba	North America	Caribbean
AFG	Afghanistan	Asia	Southern and Central Asia
AGO	Angola	Africa	Central Africa
AIA	Anguilla	North America	Caribbean
ALB	Albania	Europe	Southern Europe
AND	Andorra	Europe	Southern Europe
ANT	Netherlands Antilles	North America	Caribbean
ARE	United Arab Emirates	Asia	Middle East
ARG	Argentina	South America	South America
ARM	Armenia	Asia	Middle East
ASM	American Samoa	Oceania	Polynesia
ATA	Antarctica	Antarctica	Antarctica

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Joined

Id	Name	CountryCode	District	Population	Code	Country	Continent	Region
1	Kabul	AFG	Kabol	1780000	AFG	Afghanistan	Asia	Southern and Central Asia
2	Qandahar	AFG	Qandahar	237500	AFG	Afghanistan	Asia	Southern and Central Asia
3	Herat	AFG	Herat	186800	AFG	Afghanistan	Asia	Southern and Central Asia
4	Mazar-e-Sharif	AFG	Balkh	127800	AFG	Afghanistan	Asia	Southern and Central Asia
5	Amsterdam	NLD	Noord-Holland	731200	NLD	Netherlands	Europe	Western Europe
6	Rotterdam	NLD	Zuid-Holland	593321	NLD	Netherlands	Europe	Western Europe
7	Haag	NLD	Zuid-Holland	440900	NLD	Netherlands	Europe	Western Europe
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mySQL

- mySQL is a relational database management system based on SQL.
- It is a database system that runs on the server.
- This system has a variety if usage such as
  - Data Warehousing
  - E-commerce
  - Logging applications
- The most common use of mySQL is for web databases.
- Data in mySQL databases are stored in tables
  - Which consists of columns and rows of related data.

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SQL

- Standard Query Language is used to communicate with a database
- It is the standard language for relational database management systems
- A Query refers to a command to request data.
- SQL statements are used to perform tasks such as updating, adding, editing, and deleting data in a database.
- SQL standard commands include
  - Select
  - Insert
  - Update
  - Delete
  - Create
  - Drop

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