# Checkpoint  Data bases

1. Presenting each of the RDBMS and their functionalities ? :

A database management system (DBMS) that incorporates the relational-data model, normally including a Structured Query Language (SQL) application programming interface. It is a DBMS in which the database is organized and accessed according to the relationships between data items. In a relational database, relationships between data items are expressed by means of tables. Interdependencies among these tables are expressed by data values rather than by pointers. This allows a high degree of data independence.

There is so many Relational Database management systems. For exemple :

# 1.MySQL :

**MySQL** is a relational database management system (RDBMS) based on the SQL (Structured Query Language) queries. It is one of the most popular languages for accessing and managing the records in the table. **MySQL** is open-source and free software under the GNU licens.

# 2.PostgreSQL :

**PostgreSQL** is an object-relational database management system (ORDBMS). ... **PostgreSQL** includes multiple **features** that are designed to help the developers in developing the applications, manage our data in the datasets, and managers can keep the data integrity, and create the Risk-tolerant environments.

# 3.SQL Server :

The core component of Microsoft **SQL Server** is the **SQL Server** Database Engine, which controls data storage, processing and security. It includes a relational engine that processes commands and queries and a storage engine that manages database files, tables, pages, indexes, data buffers and transactions.

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1. A comparison between the three RDBMS :

**MySQL**supports the memory-stored table, but it can’t participate in transactions, and its security is highly vulnerable. Such tables are used only for reading purposes and can simplify exclusively primitive operations. For now, MySQL doesn’t come close to making the most out of memory-optimized tables.

**PostgreSQL**doesn’t support in-memory database creation.

**SQL Server**uses an optimistic strategy to handle memory-optimized tables, which means they can participate in transactions along with ordinary tables. Memory-based transactions are faster than regular ones, and this allows a drastic increase in application speed.

As expected, memory-optimized tables are best set up in MySQL – it’s basically their native approach. It’s not an essential database feature, but still, a good way to improve performance.