Relational DataBase Management Systems (RDBMS)

Using RDBMS allows us to:

- No Data redundancy
- Data Consistency and Integrity
- Easy access to data
- More flexibility than files
- Recovery process

Example of RDBMS and their functionalities :

MySQL

- Relational Database System
- Client/Server Architecture
- SQL compatibility
- SubSELECTs
- Speed
- ODBC

PostgreSQL

- User-defined types
- Table inheritance
- Sophisticated locking mechanism
- Foreigen key referential integrity
- Views,rules,subequery
- Nested transactions (savepoints)
- Multi-version concurrency (MVCC)

SQL SERVER

- Intelligent Query Processing
- Accelerated Database Recovery
- Always Encrypted with secure enclaves
- Memory-optimized
- Query Store custom capture policies

Comparison between the three RDBMS

Name	**SQL Server**	**Mysql**	**PostgreSQL**
Description	Microsoft flagship relational DBMS	Widely used open source RDBMS	Widely used open source RDBMS
Primary Database model	Relational DBMS	Relational DBMS	Relational DBMS
Developer	Microsoft	Oracle	PostgreSQL Global Developement Group
Initial release	1989	1995	1989
License	commercial	Open Source	Open Source
SELECT ...	Select [col1], [col2]	SELECT col1, col2	SELECT col1, col2
Data from tables is case sensitive?	Yes WHERE name = ‘John’ Or WHERE name = ‘john’ are not the same	No WHERE name = ‘John’ Or WHERE name = ‘john’ are the same	Yes WHERE name = ‘John’ Or WHERE name = ‘john’ are not the same
Working with dates	GETDATE() DATEPART()	CURDATE() CURTIME() EXTRACT()	CURRENT_DATE() CURRENT_TIME() EXTRACT()