DBMS - DataBase Management System

1 Components of DBMS

- Data
- Software
- Hardware
- Procedures (general rules and instructions on how to work with database)
- Database Access Language (DAL) (sql in most cases)
- Database Engine
- Data Dictionary (metadata repository)
- Query Processor
  - DML(Data Manipulation Language) Compiler
  - DDL(Data Definition Language) Interperter
  - Embedded DML Pre-compiler
  - Query Optimizer
- Managers
  - Database Management tools (GUI/CLI)
  - Database Installation and Configuration
  - Data loading and Migration
  - Backup and Recovery
  - Resource Management and Task Scheduling
  - etc

RDBMS - Relational DataBase Management System
SQL - Structured Query Language, consists of next groups of commands (Data something Language)

- DQL (Query) - on the data within schema objects (e.g. select)
- DDL (Definition) - on db objects such as tables, indexes, users (e.g. create, clter, drop, truncate)
- DCL (Control) - control access to db (e.g. grant, revoke)
- DML (Manipulation) - manipulate data (e.g. insert, update, delete)

NoSQL - not relational
ACID - Atomicity, Consistency, Isolation, Durability
IMDBMS - In-Memory DataBase Management System (faster i/o operations)
CDBMS - Columnar DataBase Management System (data stored in columns instead of rows)
CBDBMS - Cloud Based DataBase Management System
SMP - Symmetric MultiProcessing (Multi CPU in one PC)
MPP - Massively Paralel Processing (Multi PC)
RAID - Redundant Array of Independent Disks

- 0 (striping) - n times faster, but if single disk dies whole system dies
- 1 (mirroring) - same speed but if one disk dies system still works
- 2, 3, 4, 5, 6 etc - go check wiki lmao