# WEEK 02

1. What is Database?

   Repository of Data

2. What is Database Management System?

   **A DBMS** is simple a Software.

   **It is** used to create and maintain the structure of a database, and then to enter, manipulate and retrieve the data it stores.

   Creating an efficient database design is the key to effectively using a database to support an organization's business

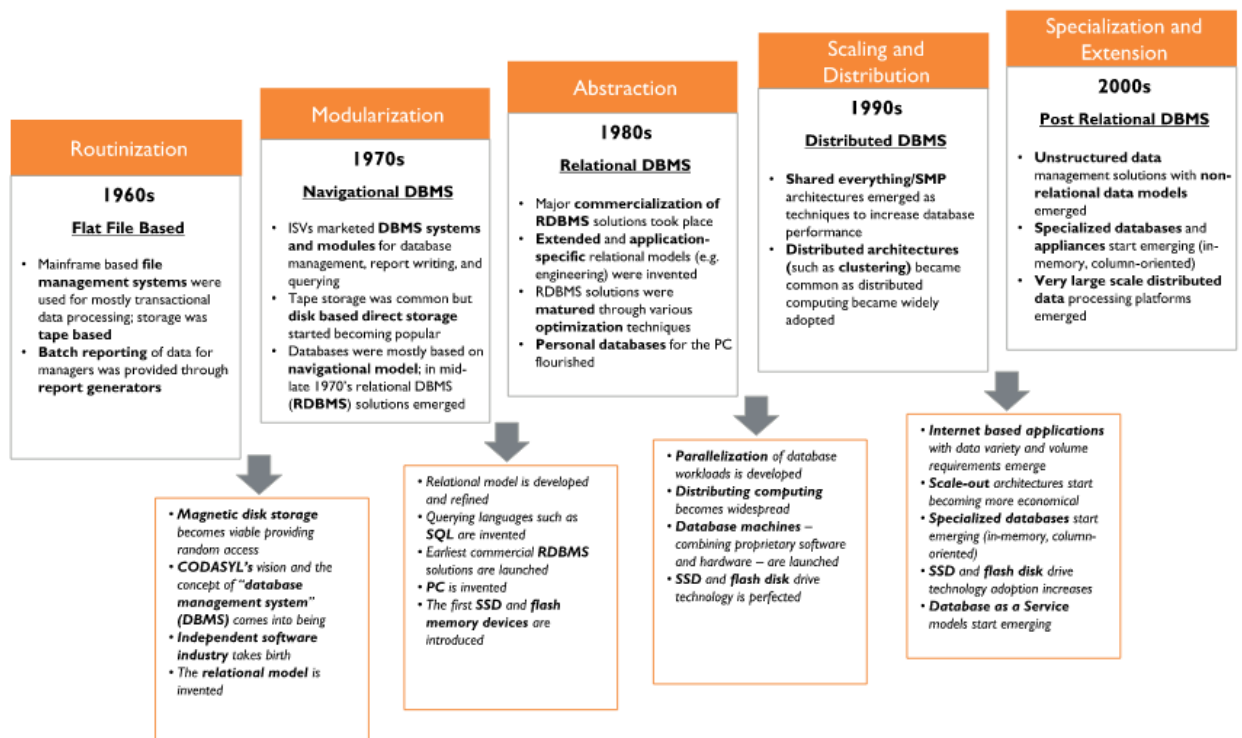3. History of Database Management System



Figure: http://dataconomy.com/big-data-technology-series-part-2/

In 60s, mainframe computers were required to manage batch transactional data processing. Report generators and file processing software were regarded as 'database management systems' of early 60s.
Report generators and file processing software provided routinization of data manipulation and other tasks, however application programs still had intimate knowledge of how data was structured at physical level

Difficult to change and extend programs because of this strong coupling between programming logic and data design.

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History

Hierarchical DBMS [1960s to 1970s]

IBM had the first model, developed on IBM 360 and their DBMS was called IMS, originally written for Apollo program.

Implements TREE structure where relations were only related between PARENT and CHILD relations.

Network DBMS [1960s to 1970s]

Charles Bachmann developed first DBMS at Honeywell, Integrated Data Store (IDS) then a group called CODASYL who was responsible for creation of COBOL, had that system standardized.

Each record can have multiple parents in comparison to Hierarchical DBMS. It is made of sets of relationships where a set represents a one-to-many relationship between the OWNER and the MEMBER.

Relational Database [1970s to 1990s]

Introduced by Edgar Codd working in IBM and unhappy to CODASYL approach.

Idea was to use table of records. All tables will be then linked by either one-to-one, one-to-many or many-to-many relationships

DB2 from IBM is the first DBMS product based on relational model.