No - SQL

- DBMS provides mechanism for storage and retrival of data.
- There are three main types
  - ↳ RDBMS (Relational DBMS)
  - ↳ OLAP (Online Analytical Processing)
  - ↳ No-sql.

1) RDBMS
   - ↳ SQL
   - → Ms SQL server
   - → IBM DB2
   - → Oracle
   - → MySQL
   - → Microsoft Access

2) OLAP
- OLAP is based on the multidimensional data model.
- It allows managers and analysts to get an insight of the information through fast, consistent, and interactive access to information.

3) No sql :
- A No SQL database is a database that provides a mechanism to store and retrieve data other than the tabular relations used in relational databases.

- These databases are schema-free, support easy replication, have a simple API, eventually consistent and can handle huge amount of data

* The primary objective
  - Simplicity at design
  - Horizontal scaling
  - Finer control over availability

- These database store both
  - structured data
  - unstructured data
  like audio files, video files, documents

* NO-SQL database are classified into three types and they are explained below

1) Key-value Store :-

These database are designed for storing data in key-value pairs and these databases will not have any schema.
Indexed key and a value for that key.

ex:- BerkeleyDB, Cassandra, Dynamo, Riak

2) Column Store :-
In these database, data is stored in cells grouped in columns of data, and these columns futher grouped into column families.

ex : BigTable, HBase, and HyperTable

3) Document Store :-
- These are the database developed on the basic ided of key-value stores where "documents" contain more complex data.
- These are designed for storing, retrieving, and managing document oriented information, also known as semi-structured data.

Ex : CouchDB and MongoDB

* What is CouchDB?

- It uses JSON, to store data (documents), java script as its query language to transform the documents, HTTP protocal for api to access the documents, query the indices with the web browser.

* Why CouchDB?

- CouchDB have an HTTP-based Rest API, which helps to communicate with the database. easily.
And the simple structure of HTTP resources and methods (GET, PUT, DELETE) are easy to understand and use.

- Provided with powerful data mapping which allows querying, combining and filtering the information.

* CouchDB Curl && Futon

CURL

- cURL utility is a way to communicate with CouchDB.

- It is a tool to transfer data from or to a server, using one of the supported protocols. (HTTP, HTTPS, FTP, FTPS, TFTP, DICT, TELNET, LDAP, or FILE)

- cURL offers a bunload of useful tricks like proxy support, user authentication, FTP upload, HTTP post SSL connection, cookies, file transfer resume

- X flag :
(HTTP) specifies a custom request method used when communicating with the HTTP server.

- H flag :
(HTTP) Extra header is used when getting a web page.

- d flag :
Using this flag at cURL, you can send data along with the HTTP POST request to the server, as if it was filled by the user in the form and submitted.

- o flag :
Using this flag, cURL writes the output at the request to a file.

- O flag
This flag is similar to -o the only difference is with this flag, a new file with the same name as the requested url was created and the source code at the requested url will be copied to it.

⇒ List of All Database

$ curl -X GET http://127.0.0.1:5984/_all_dbs

["_replicator", "_users"]

⇒ Creating a Database

You can create a database in CouchDB using cURL with PUT header using the following syntax.

$ curl -X PUT http://127.0.0.1:5984/database_name

* Futon :-

- Futon is the built-in, web based, administration interface of CouchDB.

Databases :- → create database
→ Destroys database

Documents → Creates documents
→ Updates documents
→ Edits documents
→ Deletes documents