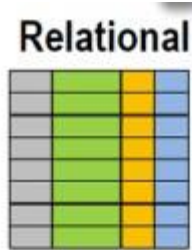


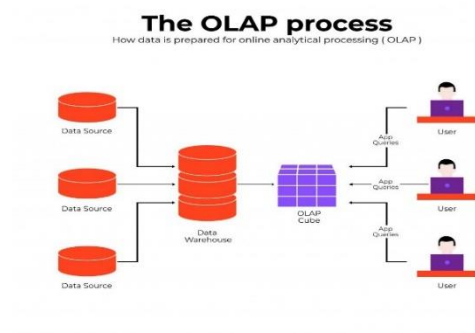
Name: Hannah M. Ventanilla

Year/ course/section : 2/BSCS/B



1.) What is a relational database ?

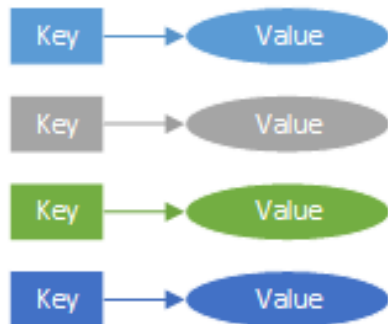
A relational database is a type of database that stores and provides access to data points that are related to one another. Relational databases are based on the relational model, an intuitive, straightforward way of representing data in tables. In a relational database, each row in the table is a record with a unique ID called the key. The columns of the table hold attributes of the data, and each record usually has a value for each attribute, making it easy to establish the relationships among data points.



2.) Analytical (OLAP)

An analytic database is a data base management system that is optimized for business analytics applications and services. It is specifically designed to support business intelligence (BI) and analytic applications ,typically as part of a data warehouse or data mart.

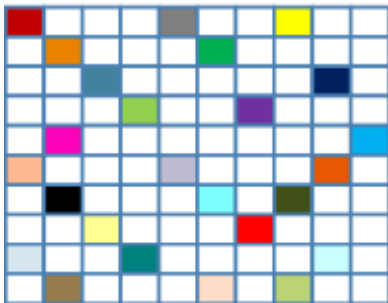
Key-Value Database



3.) Key-Value

A key-value database, or key-value store, is a data storage paradigm designed for storing, retrieving, and managing associative arrays, and a data structure more commonly known today as a *dictionary* or *hash table*. Dictionaries contain a collection of *objects*, or *records*, which in turn have many different fields within them, each containing data. These records are stored and retrieved using a *key* that uniquely identifies the record, and is used to find the data within the database.

Wide Column / Column Family Database

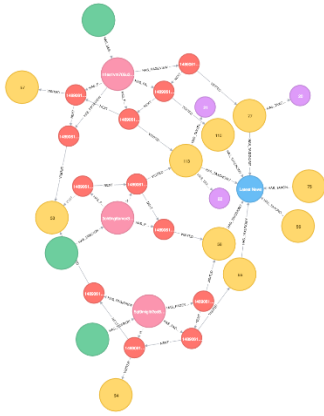


4.) Column-Family

A **column family** is a database object that contains columns of related data. It is a tuple (pair) that consists of a key-value pair, where the key is mapped to a value that is a set of columns. In analogy with relational databases, a column family is as a "table", each key-value pair being a "row". Each column is a tuple (triplet) consisting of a column name, a value, and a timestamp. In a relational database table, this data would be grouped together within a table with other non-related data.

Two types of column families exist:

- Standard column family: contains only columns
- Super column family: contains a map of super columns



5.) Graph

A graph database is defined as a specialized, single-purpose platform for creating and manipulating graphs. Graphs contain nodes, edges, and properties, all of which are used to represent and store data in a way that relational databases are not equipped to do.

Instagram, Twitter, Facebook, Amazon, and, practically, all applications, which must rapidly query information scattered across an exponentially-growing and highly-dynamic network of data, are already taking advantage of Graph Databases



6.) Document

A document database is a type of nonrelational database that is designed to store and query data as JSON-like documents. Document databases make it easier for developers to store and query data in a database by using the same document-model format they use in their application code. The flexible, semi structured, and hierarchical nature of documents and document databases allows them to evolve with applications' needs. The document model works well with use cases such as catalogs, user profiles, and content management systems where each document is unique and evolves over time. Document databases enable flexible indexing, powerful ad hoc queries, and analytics over collections of documents.