Name: Troy O. Principe **Date:** November 29, 2021

Year/Course/Section: 3/BSCS/A

TYPE OF DATABASES

A database is a collection of data that is kept on a computer. Databases are used for anything from storing photos on your computer to shopping online and stock market analysis. Databases allow computers to store important data in an orderly, searchable format.

Database technology has progressed over time, and so have the various sorts of databases. There are currently a variety of database types, each with its own set of strengths and drawbacks dependent on how they are built. Understanding the various types of databases is very important for organizations to ensure that they have the most effective setup; however, some individuals may need to learn this as well.

Relational Database

Since the 1970s, relational databases have been used. The name stems from the way data is stored in a series of interconnected tables. Data is kept in rows and columns within the tables. The relational database management system (RDBMS) is a program for creating, updating, and administering relational databases. The most common language for reading, generating, updating, and deleting data is Structured Query Language (SQL). Relational databases have a high level of dependability. They adhere to ACID (Atomicity, Consistency, Isolation, and Durability), which is a set of properties for ensuring the integrity of database transactions. Structured data works nicely with relational databases. A relational database should not be considered by organizations with a lot of unstructured or semi-structured data.

Examples: Microsoft SQL Server, Oracle Database, MySQL, PostgreSQL and IBM Db2

NoSQL Database

Any database that does not use SQL as its primary data access language is classified as NoSQL. Non-relational databases are a term used to describe these sorts of databases. Because data in a NoSQL database does not have to comply to a pre-defined schema, unlike data in relational databases, these databases are ideal for storing unstructured or semi-structured data. One benefit of NoSQL databases is that they allow developers to make changes to the database on the fly without disrupting apps that use it.

Examples: Apache Cassandra, MongoDB, CouchDB, and CouchBase

Cloud Database

Any database that is built to function in the cloud is referred to as a cloud database. Cloud databases, like other cloud-based applications, provide flexibility, scalability, and high availability. Because many cloud databases are provided as a service, they are frequently low-maintenance.

Examples: Apache Cassandra, MongoDB, CouchDB, and CouchBase

Object-oriented Database

The data and all of its attributes are connected together as an object in an object-oriented database, which is based on object-oriented programming. Object-oriented database management systems (ODBMS) are used to keep track of object-oriented databases (OODBMS). Object-oriented programming languages like C++ and Java are compatible with these databases. Object-oriented databases follow ACID requirements, just like relational databases.

Examples: Wakanda, ObjectStore