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Database

Lab Guide

**Short Answer**

1. **What is Data?**

Data is a real-world entity or an object. Data is a distinct piece of information or facts that need to be processed. It can be in any form like text, number, picture, measurements, and bytes.

1. **What is Information?**

When data are processed, organized, structured, and interpreted in a given context, so as to make them useful and meaningful, they are called information.

1. **What is Database (DB)?**

A database is an organized collection of inter-related data, which helps in insertion, deletion, and retrieval of data efficiently.

1. **What is the Relation Database Management System (RDBMS)?**

The RDBMS IS a collection of an organized set of tables (rows and columns) from which data can be accessed easily.

1. **Define the importance of Relation Database Management System (RDBMS)?**

The RDBMS provides an interface between users and applications and the database, as well as administrative functions for managing data storage, access, and performance.

6. **As we all know that there are Two types of Database. Relational Database(SQL) AND Non-Relational DB(NO sql). What is the difference between them?**

Relational database tables each have a primary key identifier. In a non-relational database, data is normally stored in hierarchical or navigational form, without the use of primary keys.

7. **List examples of Relation Database Management System (RDBMS)?**

Microsoft Access, SQL Server, Oracle database, MySQL and IBM DB2.

8. **List examples of Non-Relational DB(Nosql)?**

[MongoDB](https://aloa.co/blog/what-is-mongodb-simple-pros-and-cons), [Google Cloud Firestore](https://aloa.co/blog/as-a-startup-should-use-firestore-for-my-app) , Apache HBase, Amazon DynamoDB

9. **Define and Describe is Structured Query Language(SQL)?**

SQL stands for Structural query language it is used for storing and managing data in RDBMS. It enables a user to create, read, update and delete relational databases and tables.

10. **List and Describe each of the different subsets of SQL(Mean DDL, DML, DCL, TCL)?**

DDL changes the structure of the table like creating a table, deleting a table, altering a table, etc.

DML are used to modify the database. It is responsible for all form of changes in the database.

DCL are used to GRANT and TAKE BACK authority from any database user.

TCL commands can only use with DML commands like INSERT,DELETE and UPDATE only.

11. **What is table in Database (DB)?**

In DB, a table is a collection of data elements represented in a structured format in terms of rows and columns.

12. **What is column and Row (tuples) in table?**

**A tuple is simply a row contained in a table in the table space. A table usually contains columns and rows in which rows stand for records while columns stand for attributes. A single row of a table that has a single record for such a relation is known as a tuple. A Tuple is, therefore, a single entry in a table; it is also called a row or record. They usually represent a set of related data.**

**To Be Continued…**