

This document provides an overview of database concepts, including transactions (ACID properties), normalization, indexing, views, and SQL commands. Transactions ensure data consistency and reliability, while normalization optimizes data organization to reduce redundancy. Indexing speeds up data retrieval, and views provide virtual tables based on query results. SQL commands include SELECT for data retrieval, MAX() and MIN() for finding extreme values, and SUM() for calculating totals. Database relationships define connections between tables, and RDBMS (Relational Database Management Systems) store data in tables with defined relationships. Queries retrieve data from databases, and subqueries can be used within queries. Self-joins combine data within the same table, and NOW() and CURRENT_DATE() functions return current date and time. The MOD function calculates remainders in division operations. CHAR and VARCHAR2 data types differ in their handling of character string lengths. Scalar functions return single values, such as string manipulation, numeric calculations, and date/time functions. Finally, a database is an organized collection of data for efficient management and access.