Introduction to SQL

SQL(STRUCTURED QUERY LANGUAGE)

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What is SQL?

▶ SQL stands for Structured Query Language

▶ SQL lets you access and manipulate databases

▶ SQL became a standard of the American National Standards Institute (ANSI) in 1986, and of the International Organization for Standardization (ISO) in 1987

What Can SQL do?

- SQL can execute queries against a database
- SQL can retrieve data from a database
- SQL can insert records in a database
- SQL can update records in a database
- SQL can delete records from a database
- SQL can create new databases
- SQL can create new tables in a database
- SQL can create stored procedures in a database
- SQL can create views in a database
- SQL can set permissions on tables, procedures, and views

Using SQL in Your Web Site

- ▶ To build a web site that shows data from a database, you will need:
- ▶ An RDBMS database program (i.e. MS Access, SQL Server, MySQL)
- ▶ To use a server-side scripting language, like PHP or ASP
- ▶ To use SQL to get the data you want
- ▶ To use HTML / CSS to style the page

RDBMS

- RDBMS stands for Relational Database Management System.

- RDBMS is the basis for SQL, and for all modern database systems such as MS SQL Server, IBM DB2, Oracle, MySQL, and Microsoft Access.

- The data in RDBMS is stored in database objects called tables. A table is a collection of related data entries and it consists of columns and rows.

- Look at the "Customers" table:

  Example SELECT * FROM Customers;

Commands in Sql

▶ **Data Definition Language (DDL) commands**

▶ **Data Manipulation Language (DML) commands**

▶ **Data Control Language (DCL) commands**

Data Definition Language (DDL) commands:

- CREATE to create a new table or database.

- ALTER for alteration.

- Truncate to delete data from the table.

- DROP to drop a table.

- RENAME to rename a table.

Data Manipulation Language (DML) Commands:

▶ INSERT to insert a new row.

▶ UPDATE to update an existing row.

▶ DELETE to delete a row.

▶ MERGE for merging two rows or two tables.

Data Control Language (DCL) commands:

- COMMIT to permanently save.
- ROLLBACK to undo the change.
- SAVEPOINT to save temporarily.

Thank You