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Assignment 03- Selecting Data

Introduction

  While relational databases can serve to advance the methods through which we store information, the way in which data is organized, optimized and maintained relies on the use of programming languages. Structured query language (SQL) is one of many query languages used to process database table attributes and relationships.

Selecting Data

  SQl queries (also known as statements or commands) are instructions composed of a number of different elements used to access and retrieve data based on specific criteria. Clauses are elements within a statement used to filter and define conditions.The SELECT statement is a query used to operate on or return a set of data and often consists of four subunit clauses; SELECT, FROM, WHERE, and ORDER BY.

  Each query statement must contain both a SELECT and a FROM clause to function. The SELECT clause is a condition applied to the entire SELECT statement defining the columns to retrieve from a base table. If you want to retrieve all columns from a specific database table, the clause SELECT * can be used. The FROM clause is required to name the base table from which to pull the data. Multiple tables can also be specified and joined using the FROM and JOIN clauses.

  Additional advanced clauses may also be included in a query to further specify data retrieval. The WHERE clause serves as a boolean filter to specify conditions (filter rows) for the results of a statement. ORDER BY is a clause used to set how the results of the statement will be ordered. The default for ORDER BY is to return results in ascending order (ASC) but use of the DESC syntax will specify that results should be returned in descending order instead. The ORDER BY clause can also be used to identify more than one column and can individually organize results by ASC or DESC as designated within the clause. One additional clause, often used in the SELECT statement is the LIMIT clause, used to set the number of rows to be returned.

Conclusion

  Through the use of Structured Query Language, the retrieval of data from a database can be structured within a query using various different clauses. Columns and rows can be identified, filtered, organized, and limited within a SELECT statement through specific queries such as SELECT, FROM, WHERE, ORDER BY, and LIMIT. By using a query and applying different filtration options, the retrieval of data can be significantly simplified and expedited.