

Lecture Notes – Selecting Entire Table

Section 1: Lecture Summary

This lecture covers the fundamentals of retrieving data from database tables using basic SELECT queries. The focus is on writing simple SQL statements to retrieve entire tables or all columns from specific tables. The lecture demonstrates the essential syntax and structure needed for basic data retrieval operations using the companyDB database.

Section 2: Key Concepts and Explanations

****SELECT Statement Basics****

The SELECT statement is the fundamental command for retrieving data from a database. The basic syntax consists of two essential components:

SELECT clause specifies which columns you want to retrieve. Using the asterisk (*) symbol retrieves all columns from the table.

FROM clause specifies which table contains the data you need. This clause identifies the source table for your query.

****Query Structure****

When writing a SELECT query, you should think about the question you're trying to answer first. For example, "Find all employee details" translates to selecting all columns from the Employees table. The logical order of thinking differs from SQL syntax: you first identify which table contains the data, then decide which columns to retrieve.

****Executing Basic Queries****

Running a SELECT query executes immediately and returns all matching rows from the specified table. The result set displays all columns specified in the SELECT clause for each row that matches the FROM clause criteria.

Section 3: Example Code and Use Cases

****Retrieving All Employee Details****

```
SELECT * FROM Employees;
```

This query returns all columns (EmpID, FirstName, LastName, JobTitle, DeptID, HireDate, Salary) for every employee in the Employees table. The asterisk (*) is a wildcard that represents all columns.

****Retrieving All Project Details****

```
SELECT * FROM Projects;
```

This query returns all columns (ProjectID, ProjectName, DeptID) for every project in the Projects table.

****Retrieving All Department Information****

```
SELECT * FROM Departments;
```

This query returns all columns (DeptID, DeptName, Location) for every department in the Departments table.

Section 4: Key Takeaways

The basic SELECT statement is the foundation for all data retrieval operations in SQL. The syntax requires two essential components: the SELECT clause to specify columns and the FROM clause to specify the source table. Using SELECT * retrieves all available columns, which is useful for exploring complete table data. These simple queries form the building block for more complex queries that filter, join, and aggregate data.