Lecture Notes – WHERE Clause

Section 1: Lecture Summary

The **WHERE clause** filters records in SQL queries by applying conditions to retrieve only desired rows from a table. It follows the SELECT and FROM clauses and uses operators to compare data, such as finding employees in the IT department, hired in 2020 or later, or earning less than 50,000 salary from the Employees table in companyDB.

Section 2: Key Concepts and Explanations

WHERE clause is placed after FROM in SQL syntax: SELECT columns FROM table WHERE condition. It evaluates conditions row by row, returning only rows where the condition is true. Operators include **relational operators** (=, <, >, <=, >=, !=), **logical operators** (AND, OR, NOT), **membership operators** (IN, NOT IN), **pattern matching** (LIKE), and **range operator** (BETWEEN). Each operator will be covered in detail for building complex conditions.

Section 3: Example Code and Use Cases

Using companyDB Employees table:

Filter employees by department:

```
SELECT * FROM Employees WHERE DeptID = 2;
```

This returns only rows for the IT department (assuming DeptID 2).

Filter employees hired in 2020 or later:

```
SELECT * FROM Employees WHERE HireDate >= '2020-01-01';
```

This retrieves rows where HireDate meets or exceeds 2020.

Filter employees earning less than 50,000:

```
SELECT * FROM Employees WHERE Salary < 50000;
```

This returns rows satisfying the salary condition, as demonstrated in MySQL Workbench showing three records.

Section 4: Key Takeaways

WHERE clause enables precise data filtering with conditions and operators. Practice basic queries before advancing to relational, logical, membership, pattern matching, and range operators for more complex filtering.