

Lecture Notes – Order By Clause

Section 1: Lecture Summary

The **order by** clause sorts query results and is placed at the end of a SELECT statement after FROM. It sorts by one or more columns in **ascending** (ASC, default) or **descending** (DESC) order. Examples demonstrate sorting **Employees** table by **Salary** ascending, **HireDate** descending for most recent hires first, and multiple columns like **DeptID** DESC then **HireDate** DESC.

Section 2: Key Concepts and Explanations

Order by clause executes last after SELECT and FROM, sorting the filtered result set. Specify column name followed by ASC or DESC; omit ASC for default ascending sort. Multiple columns sort sequentially: first by the primary column, then by secondary if values match. Dates sort chronologically with recent dates (larger values) first in DESC order. Execution order: FROM retrieves full table, SELECT filters columns, ORDER BY sorts final output.

Section 3: Example Code and Use Cases

Display employee names and salaries in increasing order of salary from **Employees** table:

```
SELECT FirstName, LastName, Salary
FROM Employees
ORDER BY Salary ASC;
```

Results show lowest salary first, ascending to highest.

Display employees with most recently hired first (latest **HireDate** on top) from **Employees** table:

```
SELECT EmpID, FirstName, LastName, HireDate
FROM Employees
ORDER BY HireDate DESC;
```

Results: 2021 dates first, descending to 2016.

Sort by multiple columns: **DeptID** DESC then **HireDate** DESC from **Employees** table:

```
SELECT EmpID, FirstName, LastName, DeptID, HireDate
FROM Employees
ORDER BY DeptID DESC, HireDate DESC;
```

Results: DeptID 4 first (2021 then 2017 hires), then DeptID 3 (2021 then 2017 then 2016), sorting primarily by DeptID then by HireDate within each department.

Section 4: Key Takeaways

Order by always last in query; defaults to ASC. Use DESC for reverse sort. Multiple columns enable hierarchical sorting. Practice converting requirements (e.g., "most recent first") to queries using table columns like **Salary**, **HireDate**, **DeptID**.