

# **COMP 353 - Databases**

**5th Session**

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# Group By

**Grouping rows that have the same value into summary rows**

The GROUP BY statement is often used with aggregation functions (count, max min, avg, sum) to group the set of the result by one or more columns.

Example: Number of customers from each country.

Example: Number of orders from each country.

# Having

## Use in where clause for aggregation functions

Because the normal keywords in where clause cannot be for aggregation functions. Hence, this command has been introduced.

Example: Customer with more than a single order.

Example: Average amount of orders for each country (ship\_to column) where Average amount be less than X;

# Exists

**Test for existence of any record in a subquery**

This function returns True if the subquery returns one or more records.

Example: Customers who has at least an order with amount of X?

# Any | All

Comparison between a single column value and a range of other values

Both of them return a boolean value as a result

- Any

This operator returns True if any of the subquery values meet the condition

- All

This operator returns True if all of the subquery values meet the condition

Is used with SELECT, WHERE and HAVING statements

# **Any | ALL**

**The below examples belong to ANY and ALL statements**

Example: Find customers who have at least a order with amount of X.

Example: Find the the customers who have at least an order from Amazon.

Example: Find customer that all of their orders have been shipped to Z.

Example: Find the customers whose orders are at least Y amount.

# **Select into (Not supported in MySQL in this way)**

**Copy data from a table to another one**

Example: Create a backup from customers table.

Example: Create a new table for Iranian customers (the cluster will be in Iran in order to have a better performance and be faster).

# **Insert into select**

## **Copy data from a table and insert into another table**

This command is so similar to SELECT INTO, but the difference is that in this command the data type in the source and destination tables should be specified.

Example: Add customer table to customers backup table.

Example: Add customer table to customers backup table Iran for Iranian users.

# Any Question?