# 数据库基础

- 关系型数据库入门

# Query Data – SELECT

- The cornerstone of the most powerful and complex statement in SQL
- Retrieve information from tables in your database
- Use SELECT in conjunction with other keywords and clauses to find and view information
- SELECT can help you answer questions regarding: who, what, where, when, what if and how many

# Query Data – SELECT

Select Column1, Column2, …

From Table1, Table2, …

(Where) Condition1 and Condition2 or Condition3 …

# The SELECT Statement

- **Select**
  - ➢ The primary clause of the SELECT statement
  - ➢ Specify the columns you want in the result set of your query
- **From**
  - ➢ Specify the tables or views from which to draw the columns you have listed in the SELECT clause
- **Where**
  - ➢ Filter the rows returned by the FROM clause

# Aggregation Function

- In database management an **aggregate function** is a function where the values of multiple rows are grouped together to form a single value of more significant meaning or measurement such as a set, a bag or a list.

  --Wikipedia

# Aggregation Function

Common aggregate function include:

- Maximum/minimum()
- Count()
- Maximum
- Median()
- Mode()
- Sum()
- Avg()

# Query Data – SELECT (Cont’ d)

Select Column1, Column2, …

From Table1, Table2, …

(Where) Condition1 and Condition2 or Condition3 …

(Group By) Column name

(Having) Condition

# Group By

- **Group By**

➢The group by statement is often used with aggregate functions (count, max, min, sum, avg) to group the result-set by one or more columns

➢Use any column or list of columns following the GROUP BY keywords as grouping columns

# Having

- **Having**

➢Filter the result of aggregate functions in grouped information

➢The HAVING clause was added to SQL because the WHERE keyword could not be used with aggregate functions

# Differences between where and having?

- Condition specified in **WHERE** clause is used while fetching data(**rows**) from table, and data which doesn't pass the condition will not be fetched into result set, on the other hand **HAVING** clause is later used to filter summarized data or grouped data.

- A WHERE clause must come **BEFORE** the GROUP BY, and it filters the **rows**

- A HAVING clause must come **AFTER** the GROUP BY, and it filters the **group**

# Coding

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