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Database System Concept (CSE 3103)

Lecture 07-Day 01

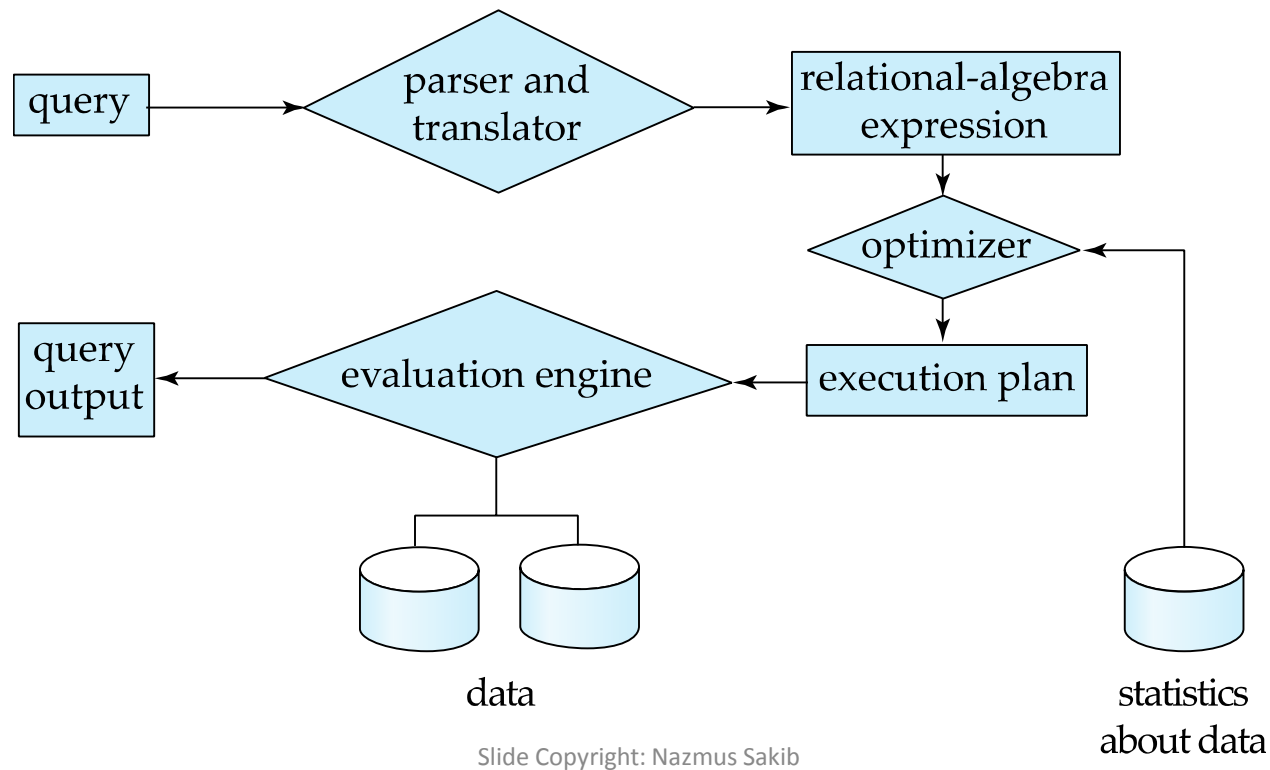
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Query Processing

- Query processing refers to the range of activities involved in extracting data from a database. The basic steps involved in processing a query are
 - Parsing and Translation
 - Optimization
 - Evaluation

Basic Steps in Query Processing

1. Parsing and translation
2. Optimization
3. Evaluation



Basic Steps in Query Processing (Cont.)

- Parsing and translation
 - translate the query into its internal form. This is then translated into relational algebra.
 - Parser checks syntax, verifies relations
- Evaluation
 - The query-execution engine takes a query-evaluation plan, executes that plan, and returns the answers to the query.

Example

- Consider the query
Select Balance From Account
Where balance <25000
- This query can be written in relational algebra like

$$\delta_{\text{balance} < 25000}(\pi_{\text{balance}}(\text{account}))$$

$$\pi_{\text{balance}}(\delta_{\text{balance} < 25000}(\text{Account}))$$