

Graph and Recursive Query

Graphs

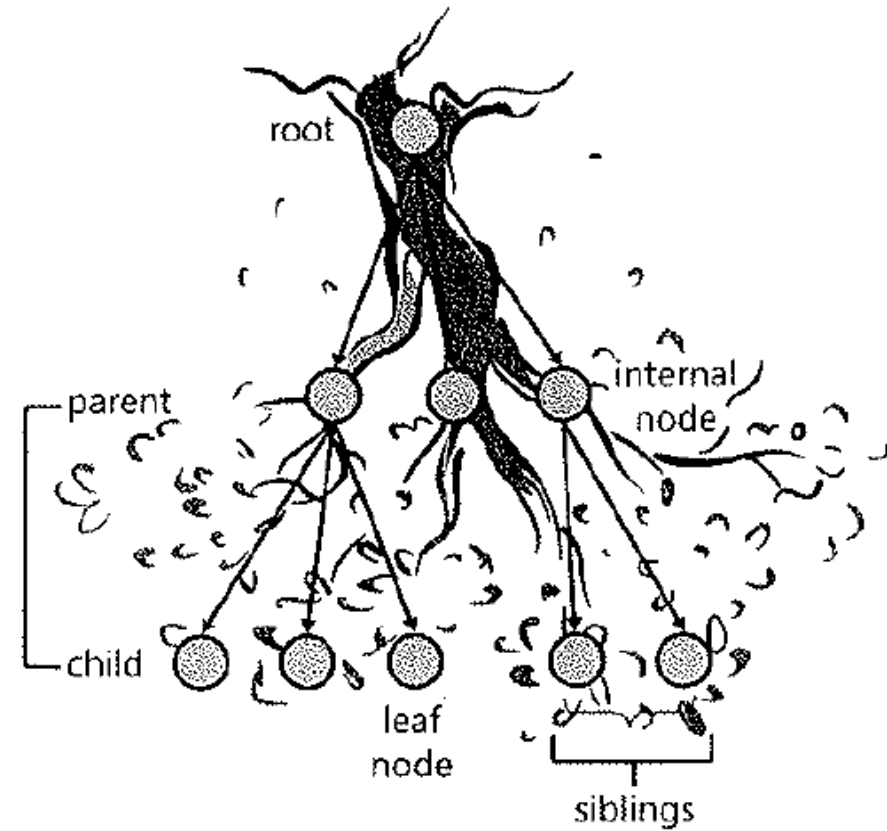
- Graphs
- Trees
- Hierarchies

Graph Categories

- Directed Graph has direction and order for nodes
 - Latte contains milk
 - Also known as Digraph
- Undirected Graph doesn't have direction and order for nodes
 - Road system
- **Acyclic graph** has no cycle
 - No path starts and ends at the same node
 - **Directed Acyclic Graph is known as DAG**
- **Cyclic graph** has cycle
 - Path **starts and ends at the same node**

Trees

- A tree is an acyclic graph
- Accessed from top



Hierarchies

- Directed acyclic graph
 - Inheritance in object oriented programming
 - Reporting chain

Graph Processing

- Iterative approach to traverse graph
- One node at a time using cursors and loops
- One level at a time and set-based using loops or recursion
- Loops have more control
- Recursive CTE (Common Table Expression) is less verbose and more elegant