

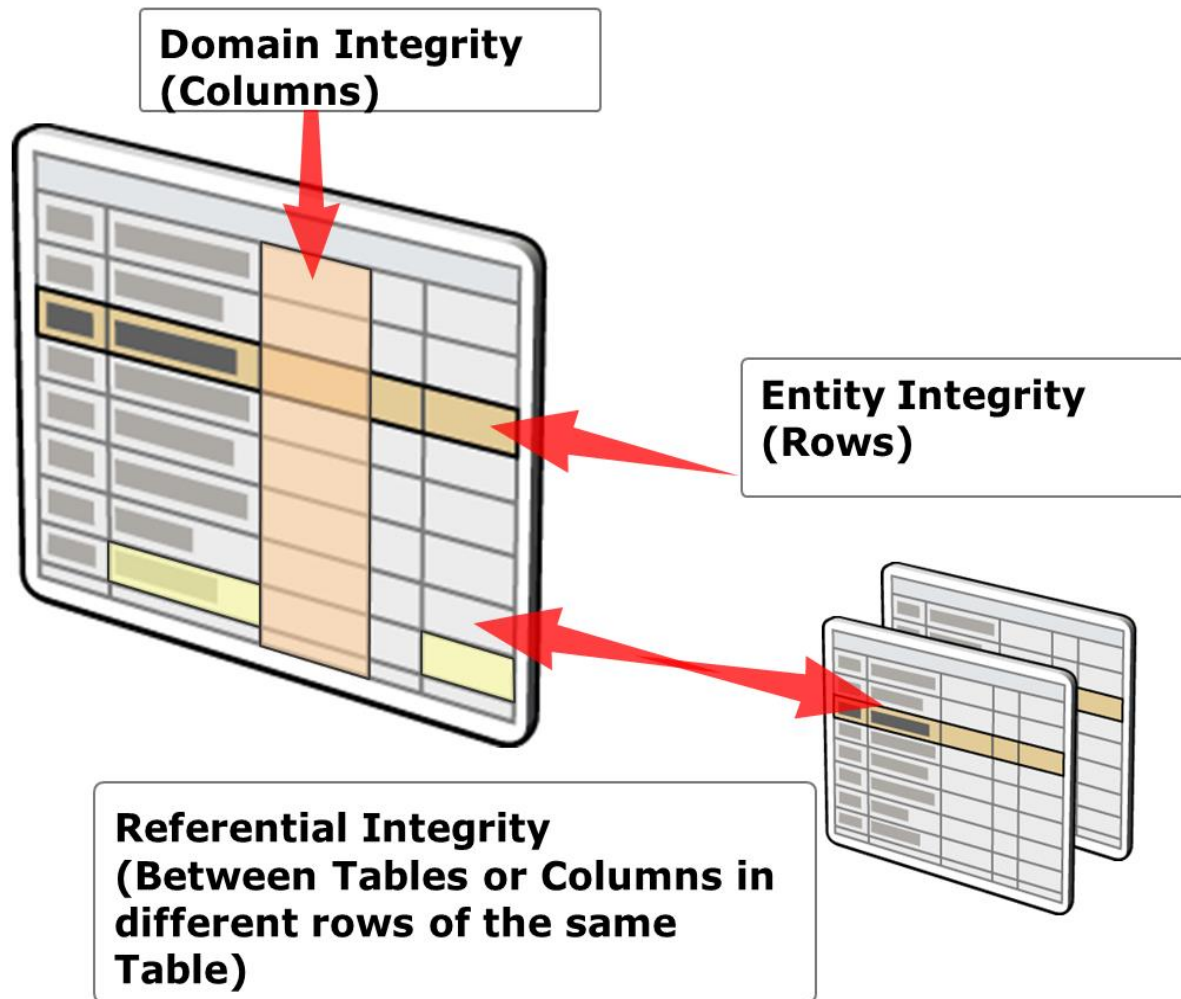
What's covered here?

- Types of Indexes
- Index Structure
- Index Maintenance

Understand Index

Index will improve query performance but slow down INSERT, UPDATE, and DELETE operations

Types of Data Integrity

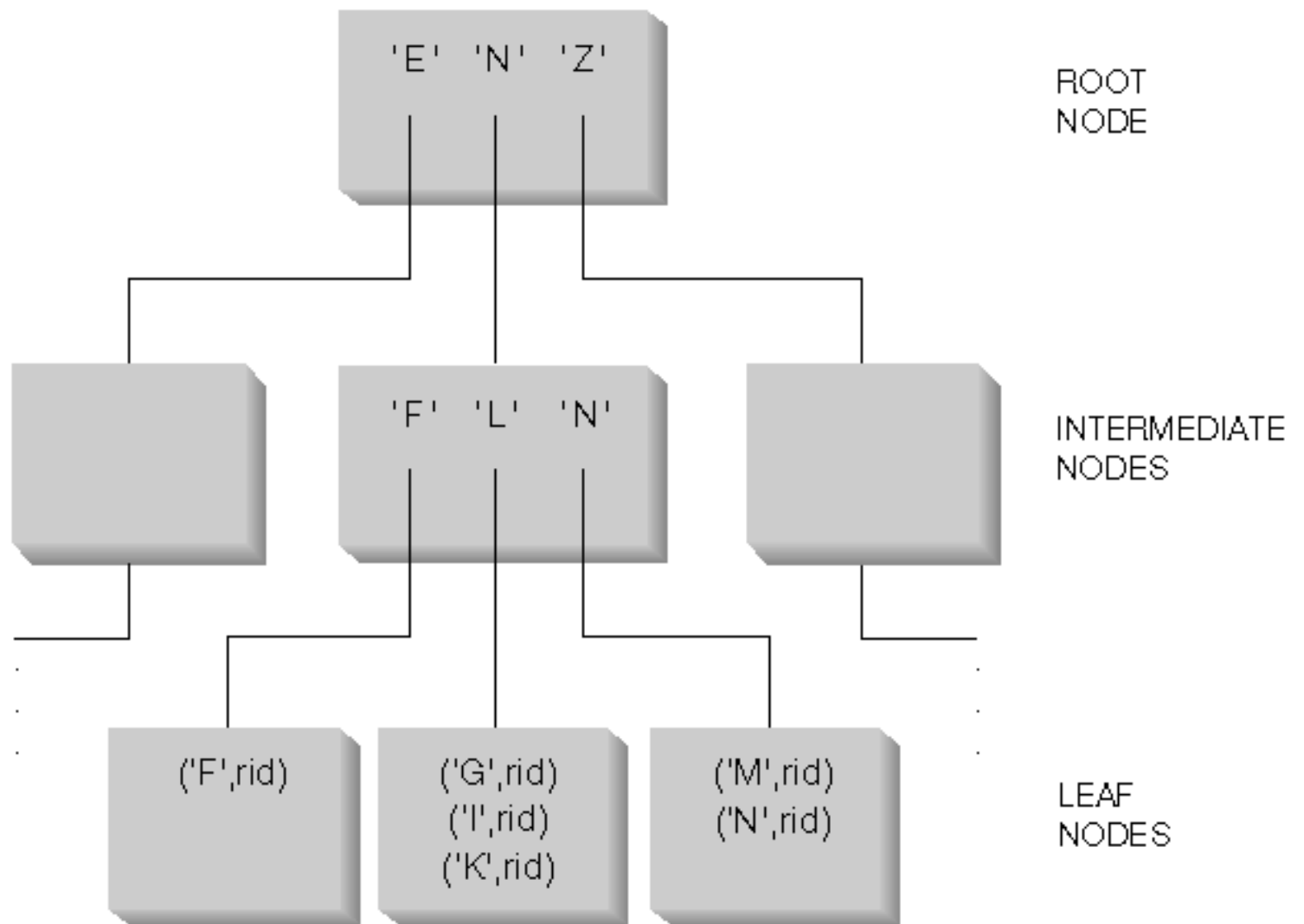


Types of Indexes

- Clustered Indexes
- Non-Clustered Indexes
- Both can be unique or non unique

Index Structure

- B Tree/B+ Tree
- Root Nodes
- Intermediate Nodes
- Leaf Nodes



Leaf Node

- Clustered Index
 - Leaf Node is the actual data pages
 - » Think 'Dictionary'
- Non-Clustered Index
 - Leaf Node is a Key Pointer to data
 - » Think 'regular index' found in the back of most books

Clustered Table vs Heap

- Clustered Table
 - *Table that has a clustered index*
- Heap
 - *Table that does not have a clustered index*

Distribution Statistics

- Estimates how efficient an index would be for a query
- To be useful:
 - Must be kept relatively current
 - Can manually UPDATE STATISTICS

Index Maintenance

- Drop / re-create indexes for large data load
- Eliminate Under-Used Indexes
- Add index to improve slow running queries
- Index primary/foreign key columns to improve JOIN performance