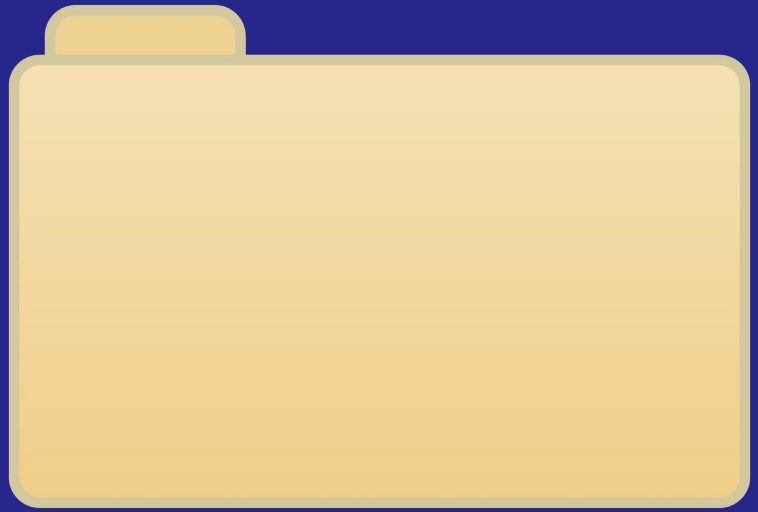
Databases and Indexing

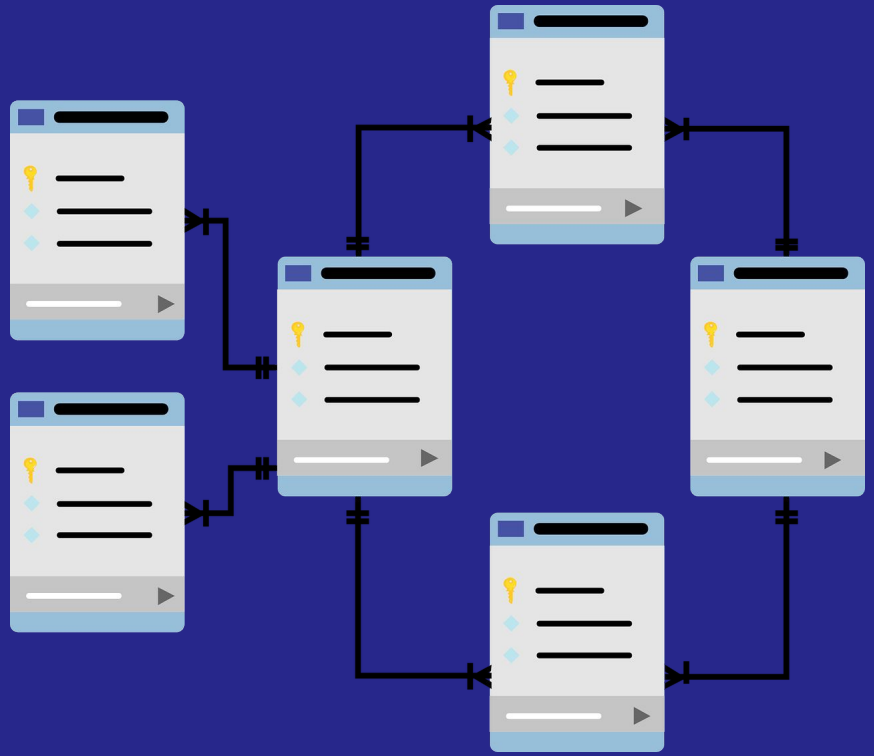
Clifford B. Anderson

Why use a database?

File System



Relational Databases



NoSQL Databases

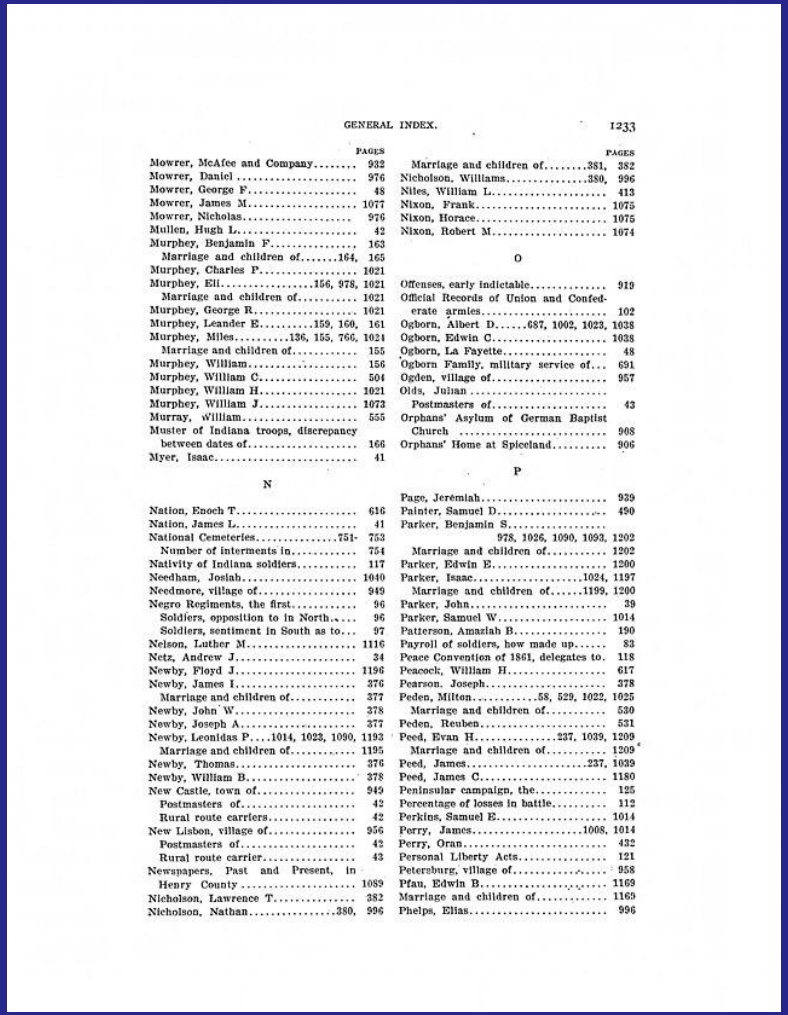
Query Languages

SQL

Why Use an Index?

Scanning

Indexing



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Inserting Documents

Document #1	“Today, I've made a major decision.”
Document #2	“Get off the line,” Runciter said in panic.
Document #3	The family of Dashwood had long been settled in Sussex.

Tokenizing and Stemming Words

Document #1	today I have made a major decis
Document #2	get off the line Runcit said in panic
Document #3	The famili of dashwood had long been settl in sussex

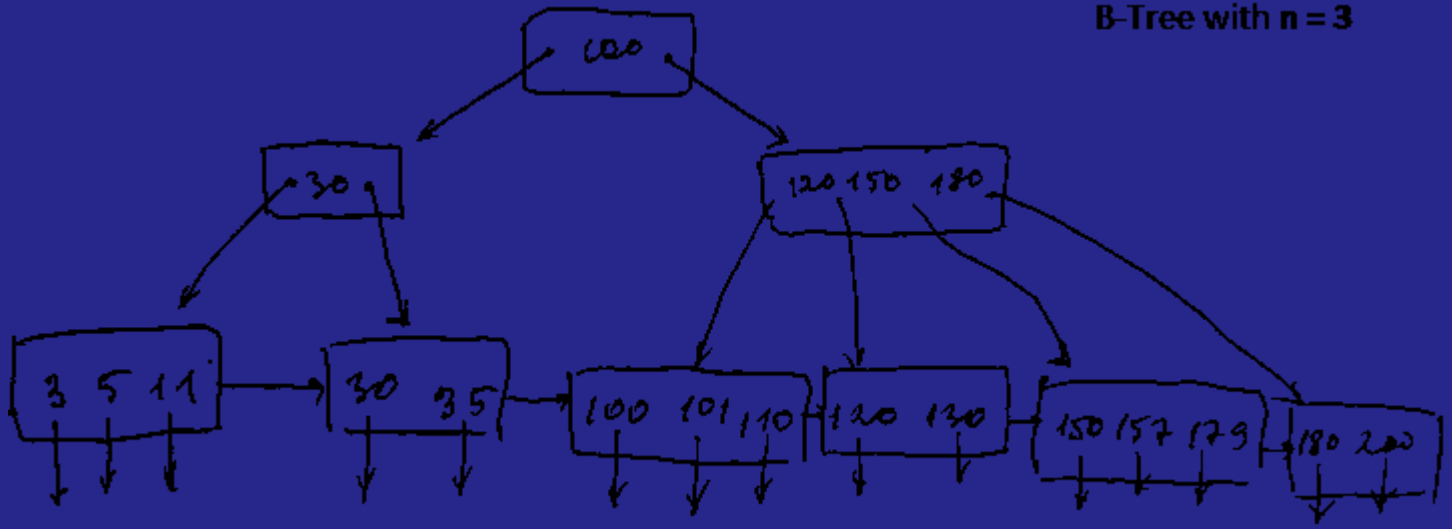
Forward Index

Document #1	“today”, “I”, “have”, “made”, “a”, “major”, “decis”
Document #2	“get”, “off”, “the”, “line”, “Runcit”, “said”, “in” “panic”
Document #3	“the”, “famili”, “of”, “dashwood”, “had”, “long”, “been”, “settl”, “in”, “sussex”

Inverted Index

“of”	Document 1, Document 2
“the”	Document 2, Document 3
“family”	Document 3

B+ Tree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30 35
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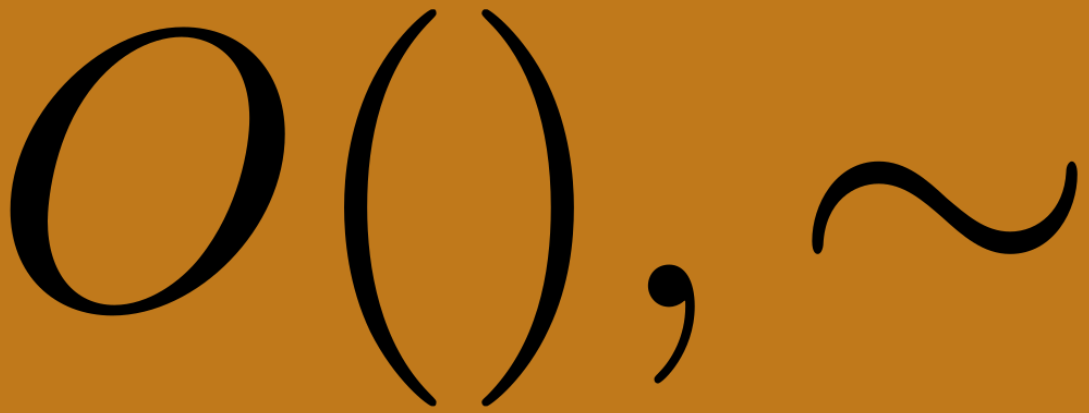
120 130
150 157 179
180 200

Complexity