Index Structures
① Ignore Signs
② Follow Signs

Foggenhorn
2'569 m

Nessel 1h
Birgisch 2h 35
Nessjeri

Alpe Bäll 1h 35
Belalp 1h 55
Seminole Drive
EAST
Apache Trail
SOUTH
Thunder Road
WEST
Los Angeles

INTERSTATE 10
Selectivity

\[ Sel := \frac{|\sigma_{a=42} (R)|}{|R|} \leq 7 \]

High Selectivity: \( \frac{5}{10000} = 0.0005 \)

Low Selectivity: \( \frac{1000}{10000} = 0.1 \)
Medium Selectivity
The “Who Needs Indexes Anyway?” Trap

random access is expensive

↓

disk seek
The "Who Needs Indexes Anyway?" Trap

random access is expensive

sequential access is cheap

=> no need to selectively access data

=> no need for data structures/indexes

=> for any query: just scan the data

(plain wrong!) dangerous
10,000 sec vs 0.05 sec
“But I have all my data in main memory!”
1TB, 10 GB/sec

100 sec

vs

0.00000005 sec
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“Caveman Chuck” Coker
http://www.flickr.com/photos/caveman_92223/3191110918/sizes/o/
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other:
Jens Dittrich