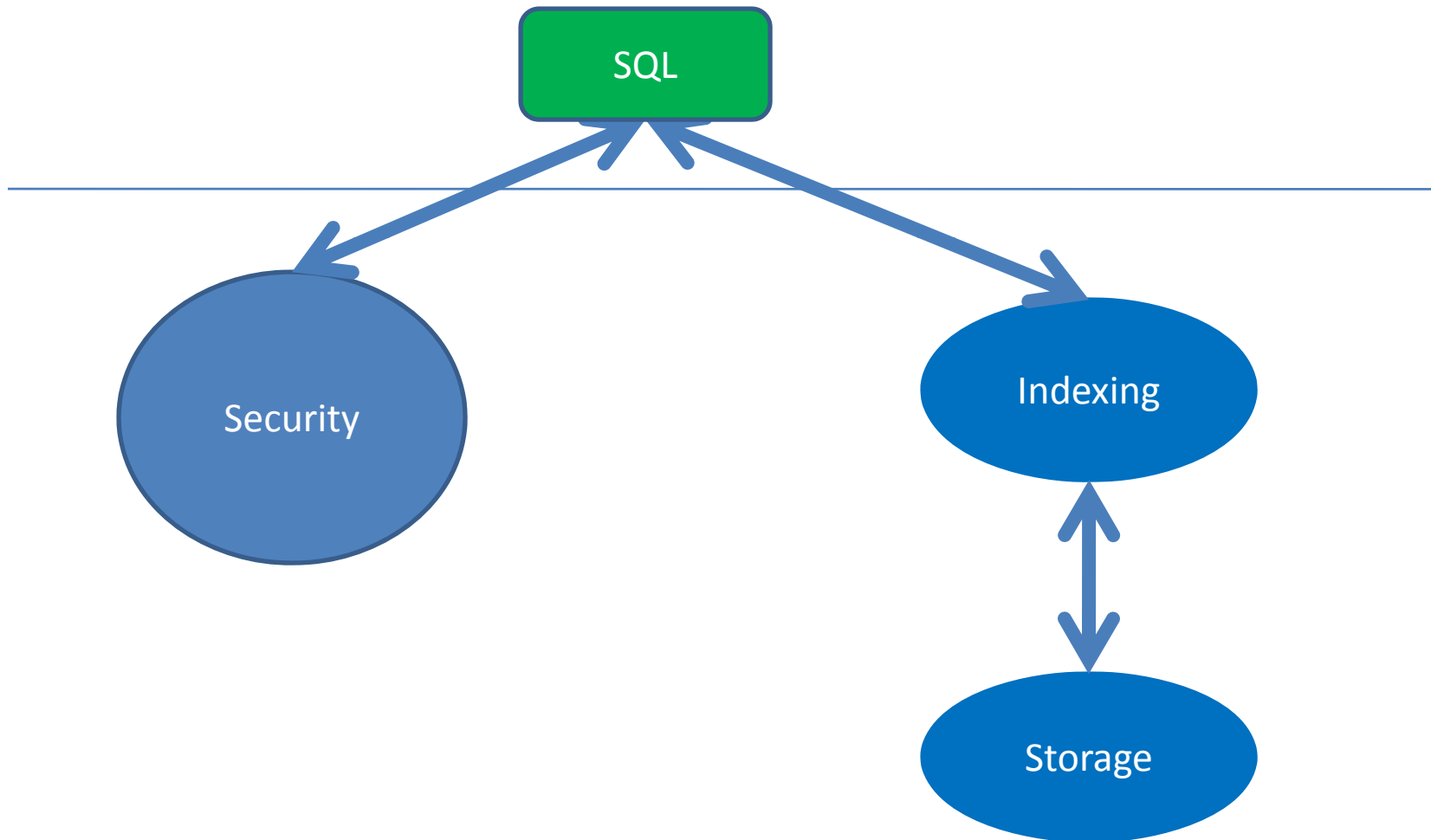


Mid-term review

Mid-Term Review



Database Security

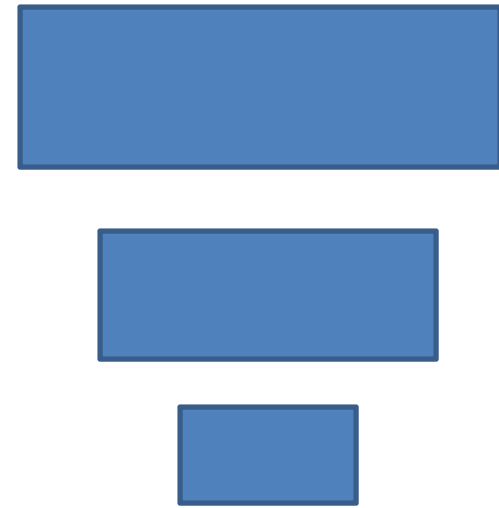
- Why?
- How?
 - 3 different security controls
 - _____, _____, _____

Access Control

- 3 different Access control methods.
 - _____
 - _____
 - _____
- How do they interact with a database query?
- How are they implemented?
- What's the difference between them?
- What's the pros and cons?

Storage

- Where are database stored?
- How database records are stored in disk?
 - Fixed record length?
 - Variable record length?



Indexing

- Why do we need indexing?
- How does an index relate to a database file?

Indexing Structures

- Alternatives
 - ISAM
 - B+ tree
 - R- tree
- What are the pros and cons of each approach?

B+ tree

- Given a fixed block size and the record length, how do you determine the structure of B+ tree?
- How do operations change the structure of B+ trees?
 - The algorithm
- Which type of queries can be sped up by B+ tree?
How much time does it cost?

Hashing index

- Why do we use hashing index?
- What's its pros and cons compared with B+ tree?
- What are the queries that hashing index might benefit more?

Hashing index

- Alternatives
 - Extensible hashing
 - Linear hashing
 - Grid-based hashing
 - Partitioned hashing
- How are they implemented? – the algorithm
- Pros and cons