Advanced Database Theory Concepts

Chapter 13:

Equivalent expression Evaluation plan Cost-based optimization

Heuristic optimization rules Statistics for estimation

Size estimation

Chapter 14, 15:

Transaction Transaction states Transaction properties

Concurrent schedule Serial schedule Consistency

Conflict serializable Precedence Graph Testing serializability

Recoverable Cascadeless schedule

Two-phase protocol Strict two-phase protocol Rigorous two-phase protocol

Tree protocol Time stamp based protocol

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| --- | --- | --- | --- | --- |
|  | Serializable | Recoverable | Cascadeless | Deadlock free |
| Two Phase | yes | yes | no | no |
| Strict TP | yes | yes | yes | no |
| Rigorous TP | yes | yes | yes | no |
| Tree | yes | no | no | yes |
| Time Stamp | yes | no | no | yes |