

Database Technology

Topic 8: Transactions

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ACID Properties



- Consider a transaction with several update operations where one of them violates an integrity constraint; the other ones are correct
- A DBMS *might* do the following:
 - return an error message for the incorrect operation,
 - successfully execute the other operations (which is possible because they are all correct), and
 - commit the transaction
- By doing so, the system **fails** to guarantee the ACID properties!
- Which property in particular would be violated in this case?
 1. **A**tomicity
 2. **C**onsistency preservation
 3. **I**solation
 4. **D**urability

QUIZ!

- Assume a DBMS that only supports one transaction at a time
 - if there are multiple transactions, they may simply have to queue up before they are considered by the system
- Which of the ACID properties would be guaranteed *trivially* by this system?
 1. **A**tomicity
 2. **C**onsistency preservation
 3. **I**solation
 4. **D**urability



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