Database Technology

Topic 9: Transactions

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Break until 14:30

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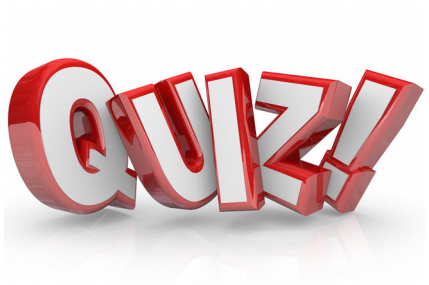
ACID Properties

- 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



- Assume a DBMS that only supports one transaction at a time
  - i.e., 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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