

CSC369 Week 10 Notes

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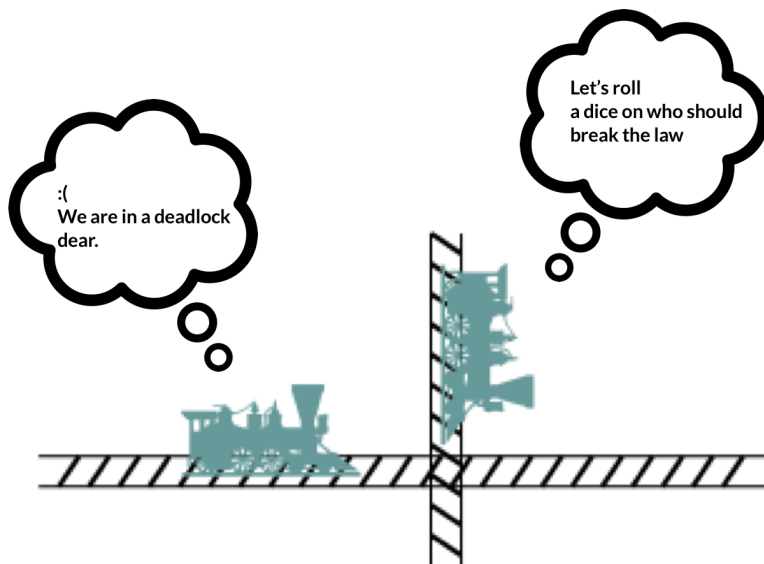
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- Deadlock Defined

- **Google Definition:** Is a situation one typically involving opposing parties, in which no progress can be made.
- Is permanent
- Happens to set of processes that
 - * Compete for same system resources
 - * Communicate with each other

- Example of Deadlock

- Law passed by Kansas Legislature in in early 20th century
 - * “When two trains approach each other at a crossing, both shall come to a full stop and neither shall start upon again until the other is gone”



- Conditions for Deadlock

- Solutions
- Safe States
- Unsafe States & Algorithm
- What is Atomicity?
- Why would atomicity fail?
- Definitions for Transactions
- How to ensure atomicity in the face of failures?
- Write-ahead logging
- Problems with logging
- Deadlock and Starvation
- Communication Deadlocks
- Livelock