When do Deadlocks Occur?

- 3 <u>necessary</u> conditions for a deadlock to occur
  1. Some objects are accessed in exclusive lock modes
  2. Transactions holding locks cannot be preempted
  3. There is a circular wait (cycle) in the Wait-for graph
- "Necessary" = if there's a deadlock, these conditions are all definitely true
- (Conditions not sufficient: if they're present, it doesn't imply a deadlock is present.)