

# Closures of Relations

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CS 202

Rosen, section 7.4

# Relational closures

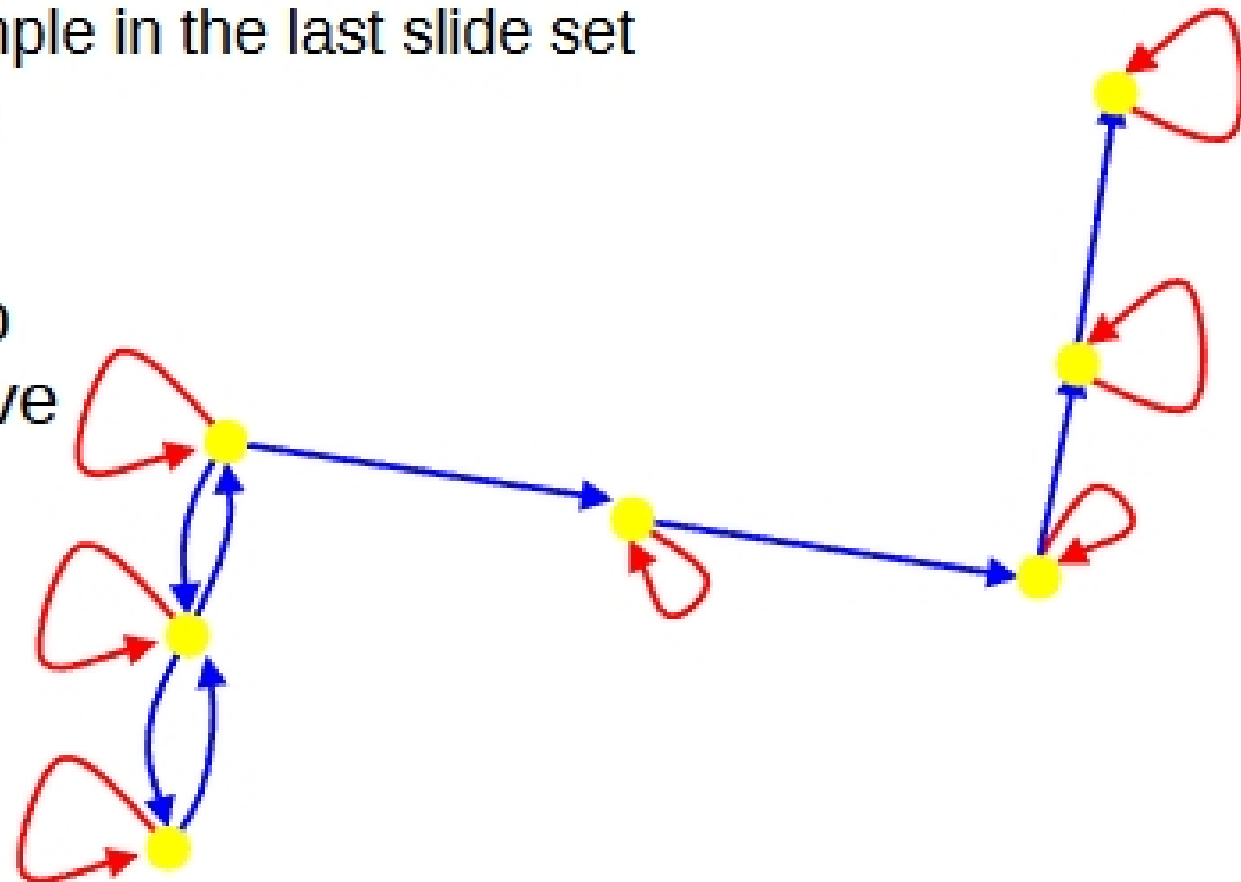
- Three types we will study
  - Reflexive
    - Easy
  - Symmetric
    - Easy
  - Transitive
    - Hard

# Reflexive closure

- Consider a relation  $R$ :
  - From our MapQuest example in the last slide set
  - Note that it is not reflexive

- We want to add edges to make the relation reflexive

- By adding those edges, we have made a non-reflexive relation  $R$  into a reflexive relation



- This new relation is called the **reflexive closure** of  $R$