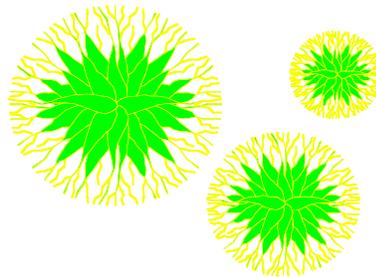




## ***XI. Activity Diagrams***

***Activity Diagrams  
Petri Nets  
Examples***



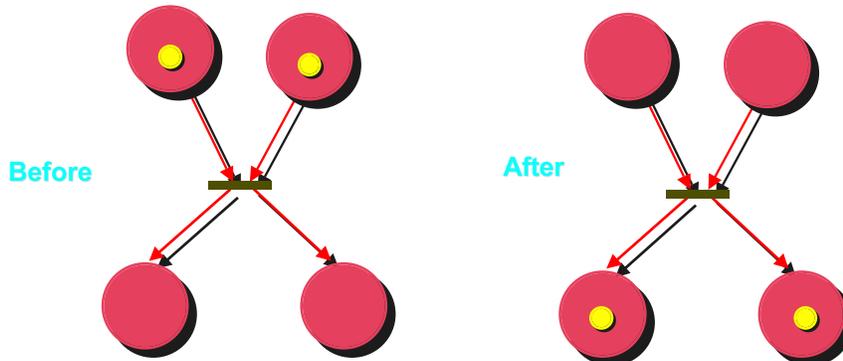
## ***Activity Diagrams***

- Like state diagrams, activity diagrams describe activities which involve concurrency and synchronization.
- Activity diagrams focus on the flow of actions and events.
- Can be used
  - ✓ To model a human task (e.g., a business process).
  - ✓ To describe a system function represented by a use case.
  - ✓ To describe the logic of an operation.

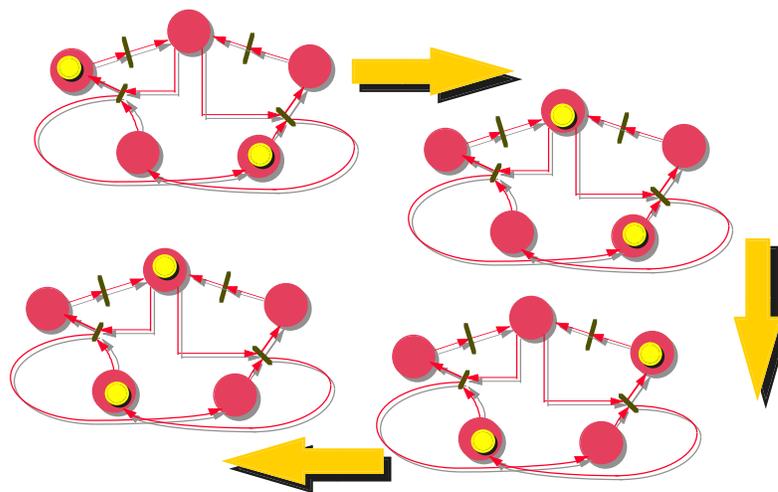


# Petri Nets

- Petri nets generalize state diagrams by allowing transitions which involve several input and output states:

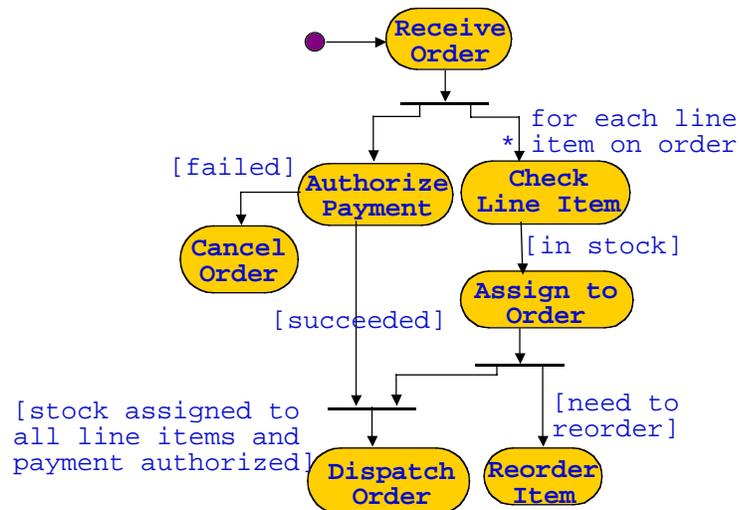


# An Example



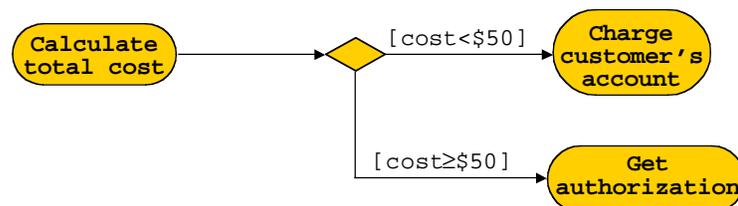


## Order Processing



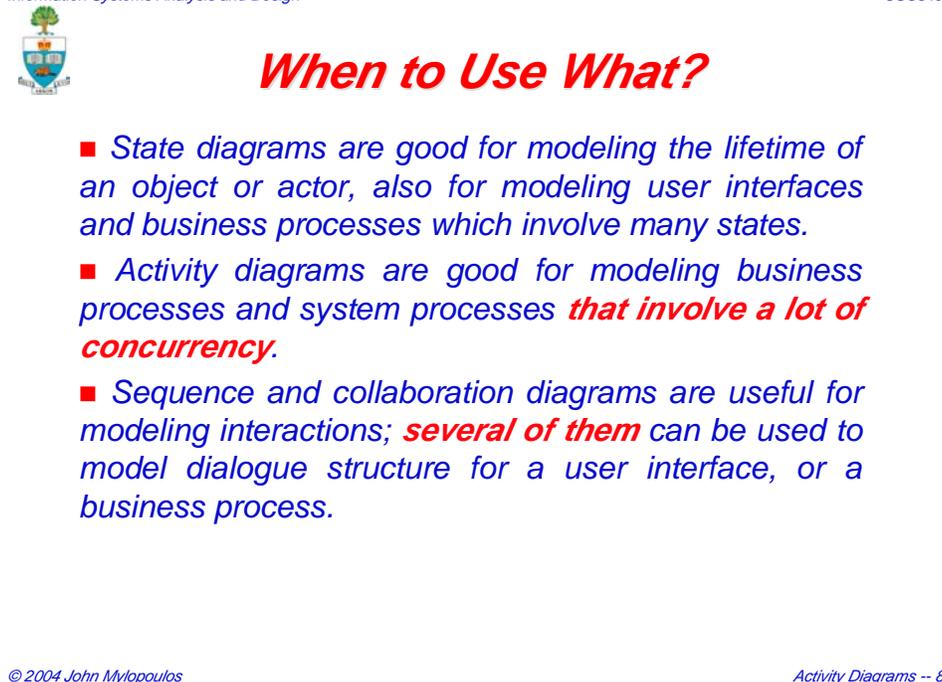
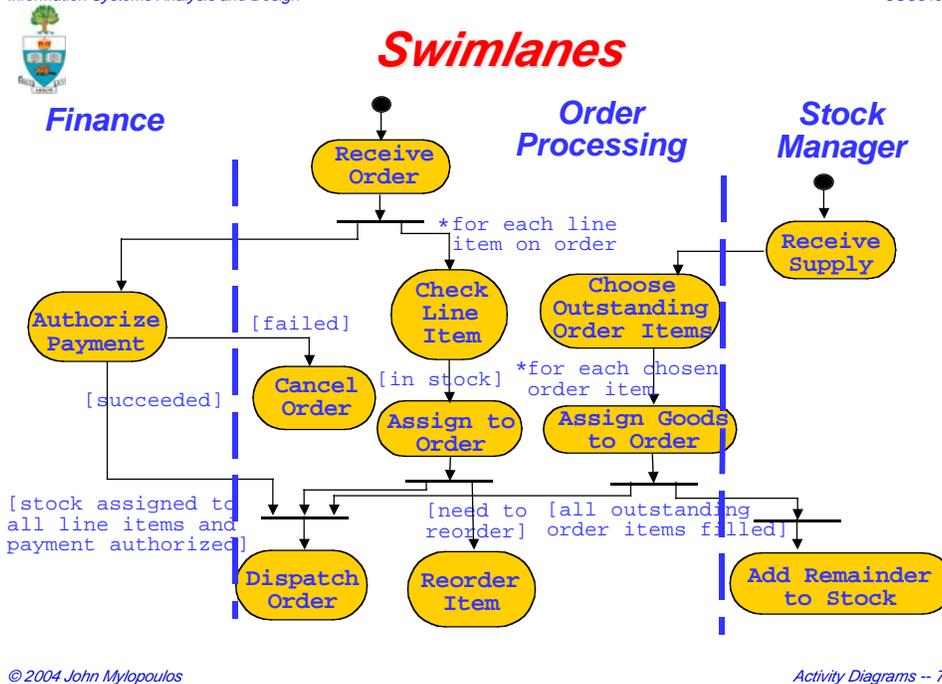
## Decision Points

### ■ Decision points:



### ■ Dead ends: there may be transitions in an activity diagram with no destination state; this can mean that:

- ✓ Not all processing has been specified;
- ✓ Or, that another activity diagram will take over.





## ***Additional Readings***

- [Booch99] Booch, G. et al., *The Unified Modeling Language User Guide*, Chapters 19, 20, 21, 24. Addison-Wesley.
- [Fowler00] Fowler, M., *UML Distilled: A Brief Guide to the Standard Object Modelling Language*, Chapters 8, 9. Addison-Wesley.