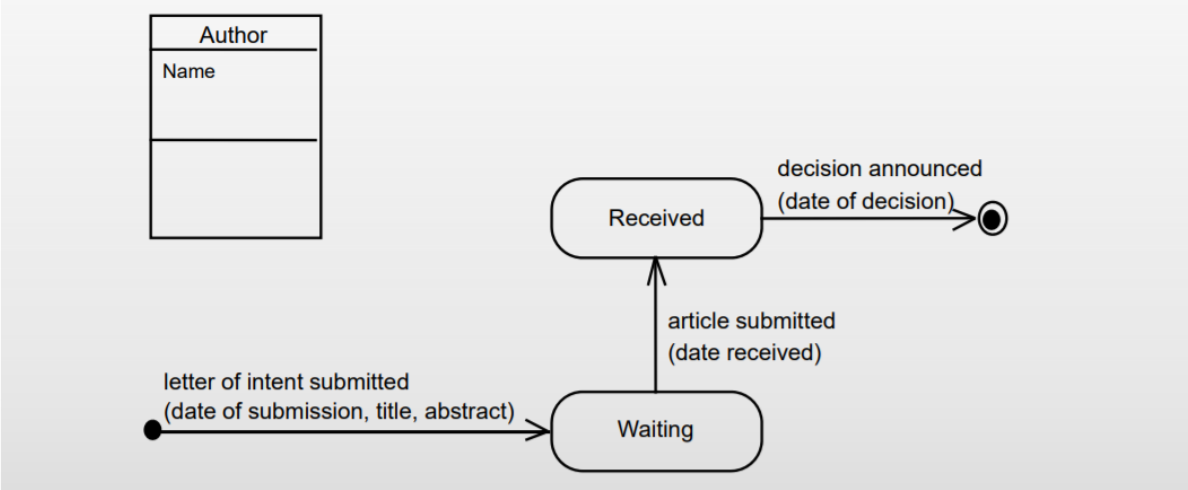
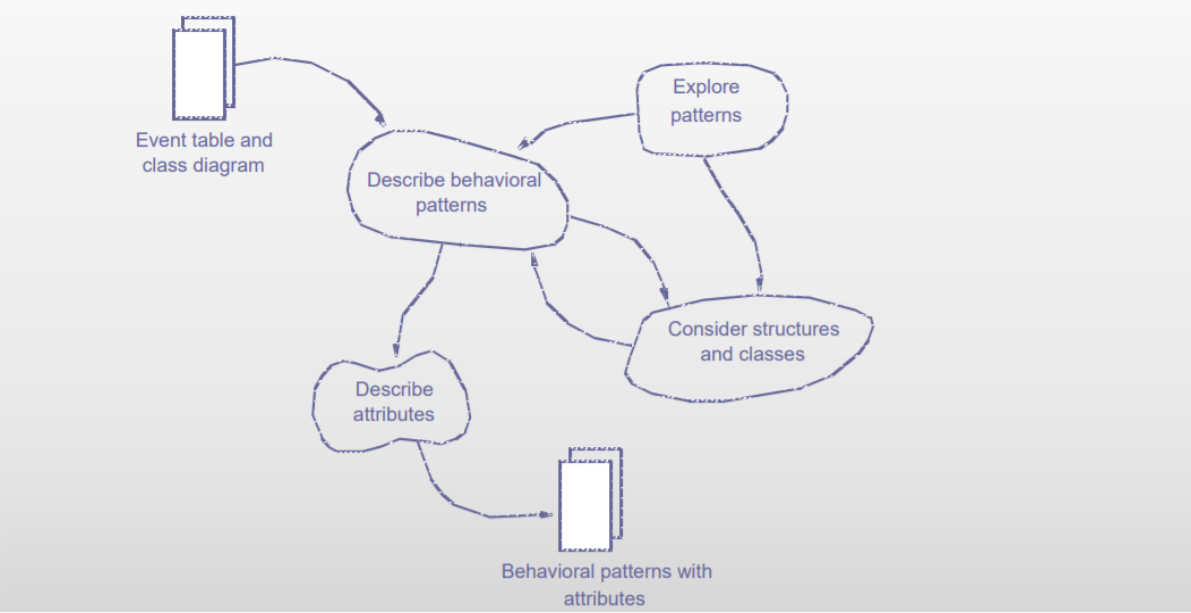
5: Behaviour: Statechart Diagrams, Explore Patterns (Stepwise relation and role).

Result



Behaviour: Activities



Event Traces

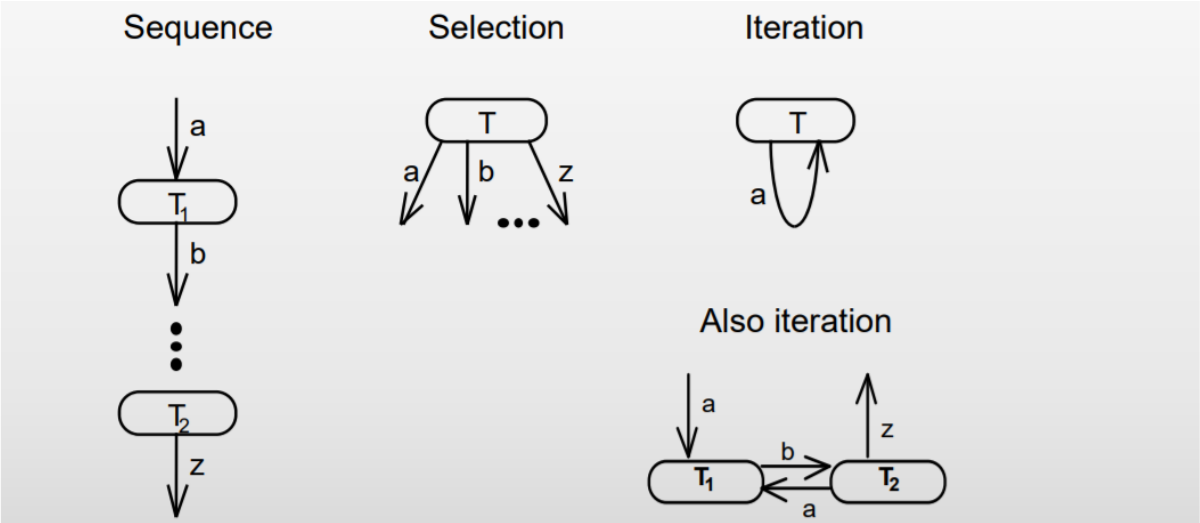
- A sequence of events involving a specific object

- Account-1: opened-closed
- Account-2: opened-deposited-withdrawn-deposited-deposited-deposited-...
- Account-3: opened-deposited-withdrawn-withdrawn-...
- Account-n:...

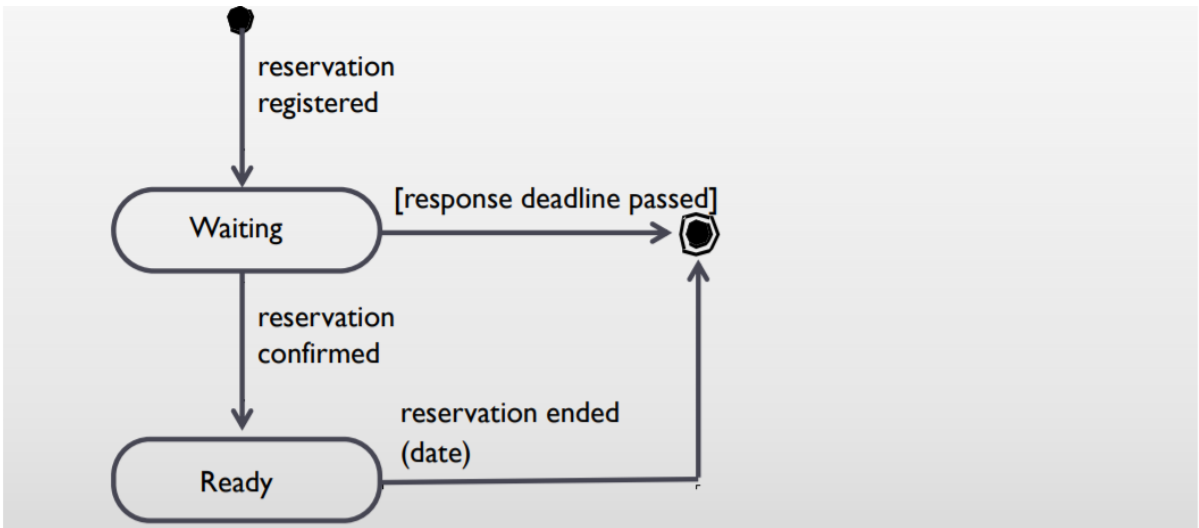
Describe Behaviour Patterns

- Make event traces for each class.
- For each class ask:
  - Which event(s) cause the creation of a problem-domain object? These events are good as selections that can cause the birth of an object.
  - Which event(s) cause the disappearence of a problem-domain object? These events are grouped as selections that can cause the death of an object
- Typical event traces:
  - Which events occur together in a sequence?
  - Are there any alternative events?
  - Can a given event occur more than once?
  - Is the overall form structured or unstructured?

Control Structures

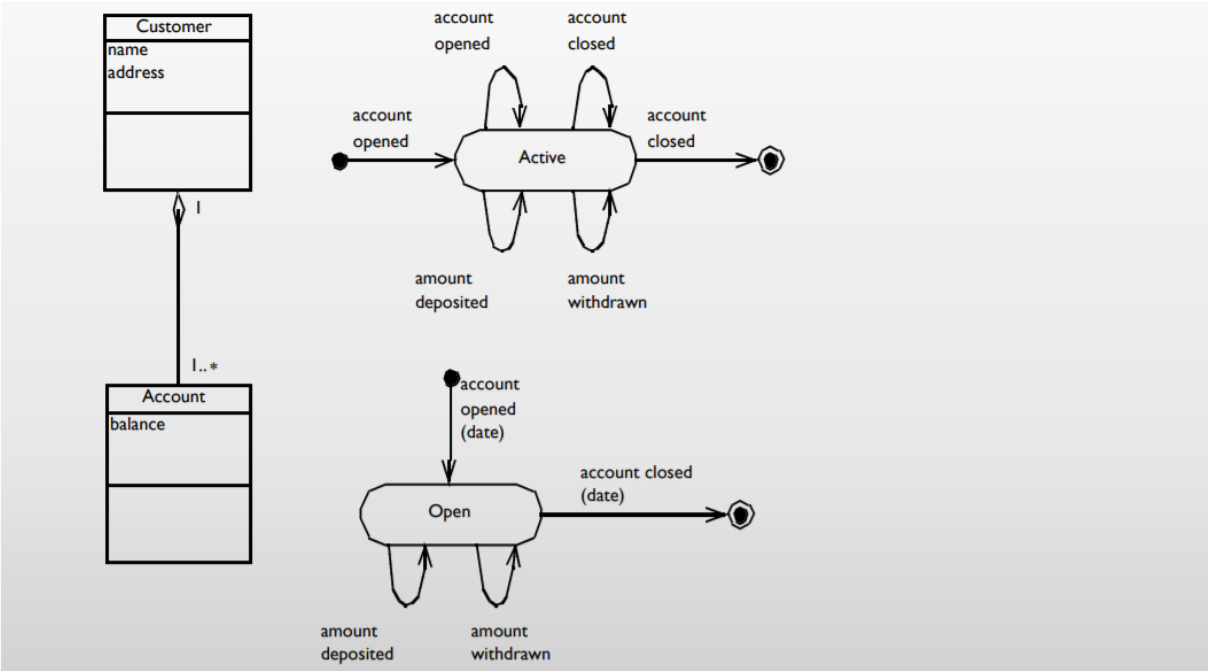


Conditions in Statechart Diagrams



Common Events: State Chart Diagram

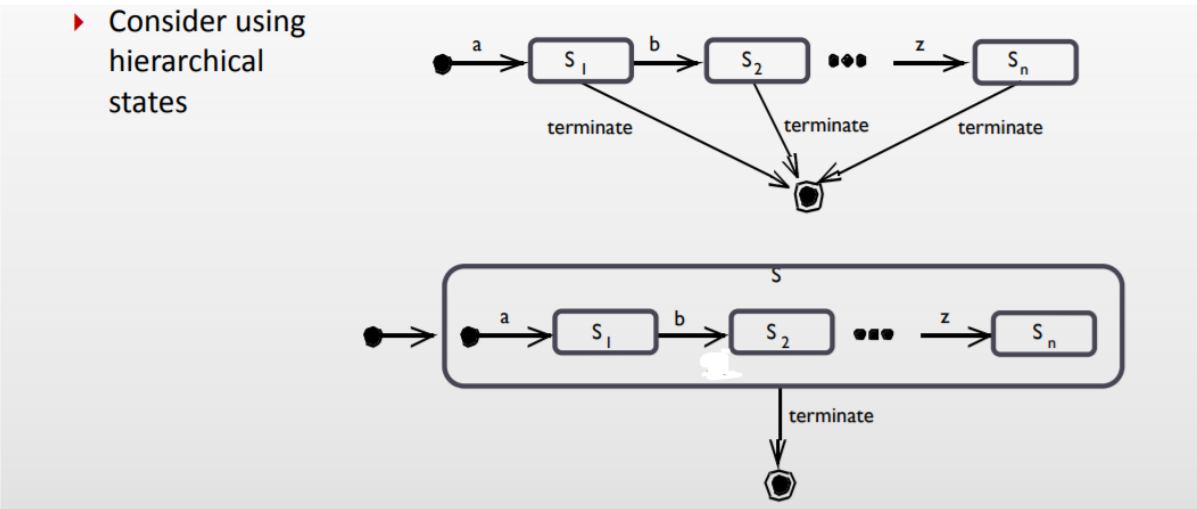
Because 1 customer can have multiple accounts.



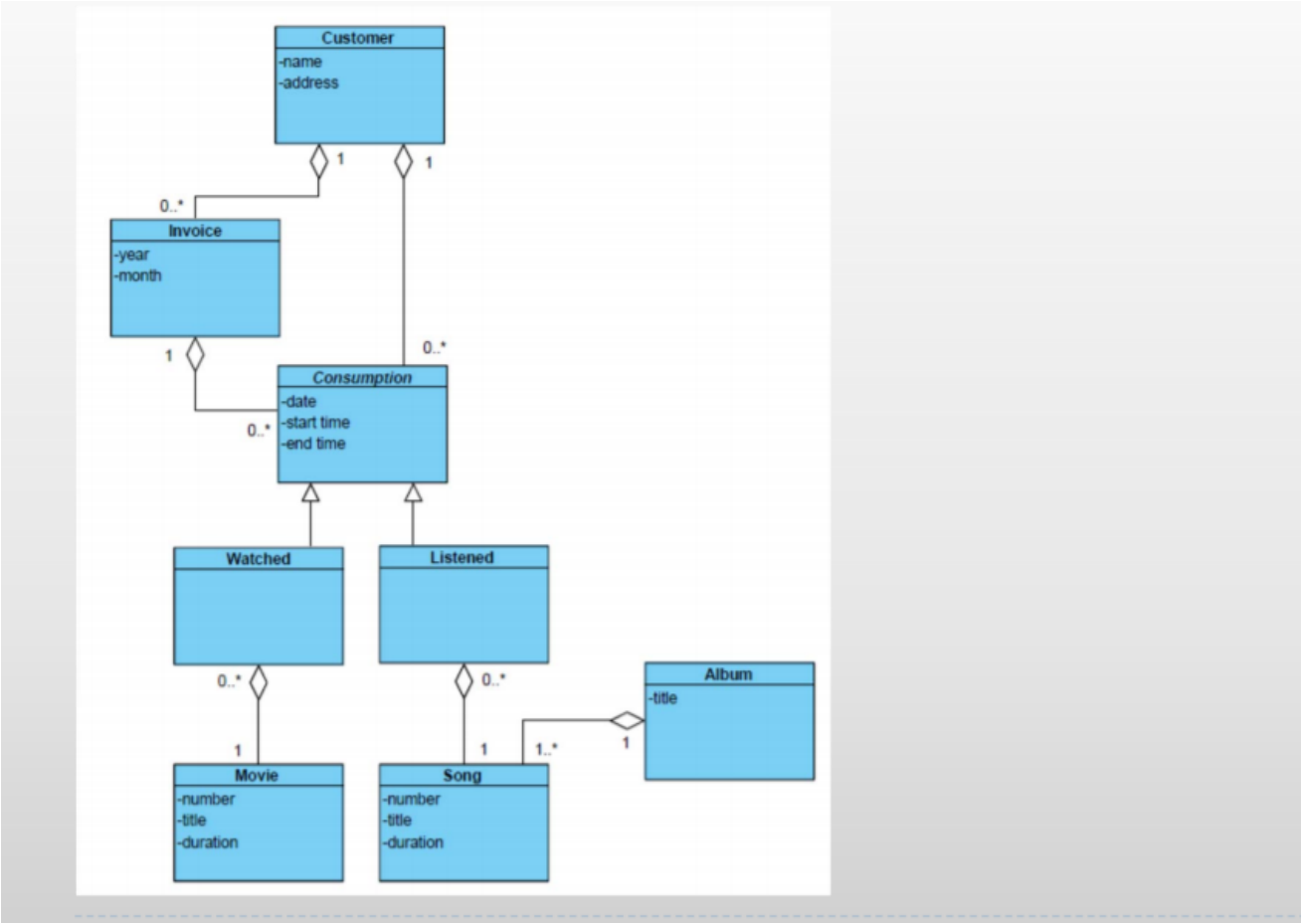
Consider Structures

- Aggregation and association
  - if two or more object have common events, consider adding an aggregation or association structure between them.
  - If two classes are related by an aggregation or association structure, at least one common event should be considered.
- Generalization
  - If the same event is tied to two classes, consider whether one class is a generalization of the other.

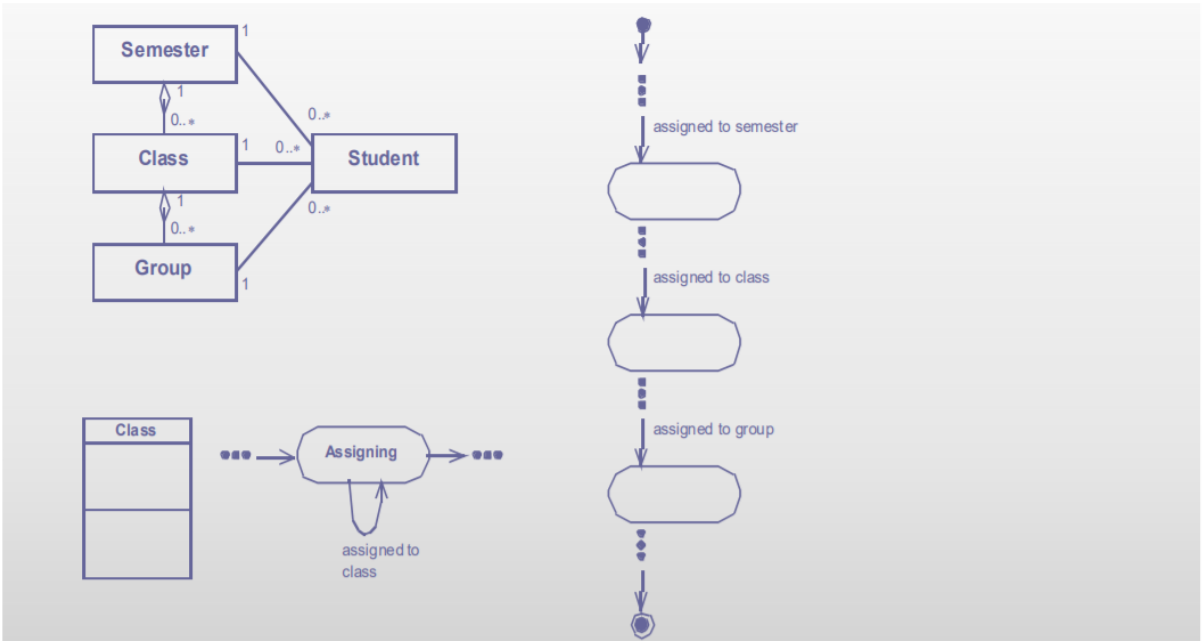
Hierarchical states



Example: Streaming service

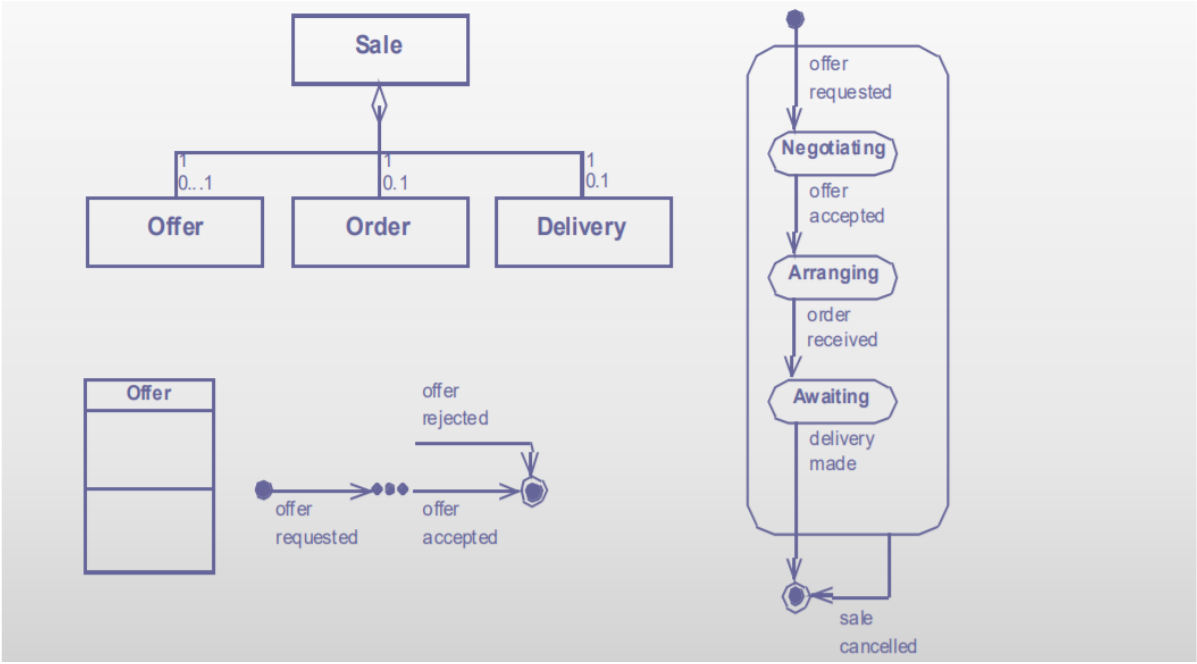


Explore Patterns: Stepwise Relation



Events that happen in steps. Student is registered to a semester, then a class, then a group.

Explore Patterns: Stepwise Role



Explorer Patterns: Composite