

### **Everything on State Diagrams**

State diagrams are a tool to allow us to describe the non trivial internal changes that an individual object goes through in response to external events. The events may be GUI events or messages from other objects

A state diagram is associated with specific class

An object can be in a state, there are transitions between states. At any moment the object will be in precisely one state.

The values of one or more attribute can be used to record the state. Core operations and attribute changes are considered state changes

Some public operations may only be applicable in some states of the object. Either the caller must check the state before calling the operation (design by contract). Or each such operations must internally check whether it should act before doing anything (preconditions)

A transition should occur if the object is in the appropriate state and all preconditions are true

Design by contract might affect the code. The absence of a condition can result to poor quality and lack of precision

If a state diagram has an action on the transition from the start symbol to the initial state the action is placed in the class's constructor