

Object Oriented Simulation

Activity Diagrams

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Activity Diagrams

These diagrams help describe the operations of the processes involved and the synchronization that is present when processes interact with each other.

Car processes enter a queue and transition to the idle state. The machine process removes a car process from the queue to service it. All queues are passive objects and are different from the processes.

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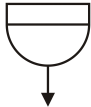
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Activity Symbols

The flow of control in the diagram is composed of a sequence of symbols that denote different type of activities and synchronization actions, all joined by lines and arrows.

A general activity is represented by a rectangular box; the label in the box is the name of the activity. This activity symbol is usually called a *delay* because a finite interval elapses while the activity is carried out and before the process can proceed to the next activity. The arrows show the direction of the flow activity sequence.

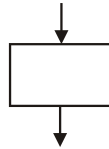
Activity Symbols



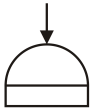
Start



Suspend



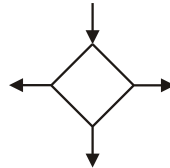
Gen activity



Terminate



Reactivate



Condition

Activity Symbols

- The lower semicircle with a bar below a process name, indicates the start of a process life cycle.
- The lower semicircle symbol also indicates reactivation of the activity sequence; this symbol can also have an arrow in a non-vertical inclination that shows synchronization with another process.
- The inverted form of this symbol indicates the termination of the process.
- The upper semicircle indicates that the object enters its idle state
- a possible arrow in a non vertical inclination denotes the synchronization with another process.

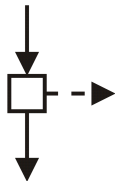
Interaction Symbols

- Process interaction symbols indicate signals and direct synchronization among processes.
- The *synchronization send* denotes when a signal is sent to a condition queue.
- This symbol can also denote an interrupt to another process.
- This symbol can also be used to send an item to a queue.
- The *synchronization receive* indicates an item being received from a queue.

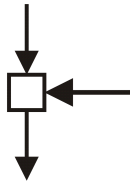
Interaction Symbols (2)

- The symbols for *cooperate* describe the effect of the cooperation among processes.
- The symbol for *schedule* describe a process that schedules itself or another process after some time interval
- This symbol can also denote the reactivation of another process.

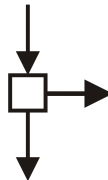
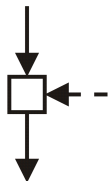
Interaction Symbols



Send



Cooperate



Activity Diagram of the Carwash Model

