

State Diagram :

It is used to represent the coordination of the system, represents the behaviour using finite state transition. It is used to model the dynamic function of a class in response to time and changing external stimuli.

Uses :-

- * We use it to state the events responsible for change in state.
- * We use it to model the dynamic behaviour of the system.
- * To understand the reaction of objects/classes to internal or external stimuli.

Basic components of a state Diagram :-

→ Initial state

A blank filled circle

→ Transition

A solid arrow labelled with event causing change of control.

→ State :

A rounded rectangle.

→ Fork :

A solid rectangular bar with incoming arrow from parent state and outgoing arrows towards newly created.

→ Join :

A rounded solid rectangular bar with incoming arrows from joining states and outgoing arrow towards common goal state.

→ Self transition :

Solid arrow pointing back to state itself.

→ Composite state :

Rounded rectangle with internal activities.

→ Final state :

A filled circle within a circle notation.

Activity Diagram :

It is used to illustrate the flow of control in a system and refer to the steps involved in the execution of a use case. It focuses on condition of flow and sequences in which it happens.

Uses :

- * Dynamic modelling of the system on a process.
- * Illustrate various steps involved in UML use case.
- * Model software elements like methods, operations and functions.
- * Depict concurrent activities easily.
- * Shows constraints, condition and logic behind algs.

Activity Diagram Notations :

→ Initial state :

A black filled circle

→ Action or Activity state :

A rectangular with rounded corners represents execution of an action on objects.

→ Action flow or control flow :

A line with an arrow head to depict a control flow.

→ Decision node and branching :

A diamond shape with condition inside it, outgoing arrows can be labelled with conditions.

→ Guards :

Refers to the statement written next to decision node on arrow can be within square brackets.

→ Fork :

A round solid rectangular bar with incoming arrow from parent activity and outgoing arrows towards newly created activities.

→ Join :

A round solid rectangular bar where there are 2 or more incoming edges and the outgoing edge.

→ Merge :

We can merge two or more activities into one if control proceeds on to next activities.

→ Such lanes :

They are vertical / horizontal / rectangular columns which groups related activities.

→ Time event :

Hour glass lines which denotes an event take some time to complete.

→ Final state :

A filled circle within a circle notation.