System Design & Analysis

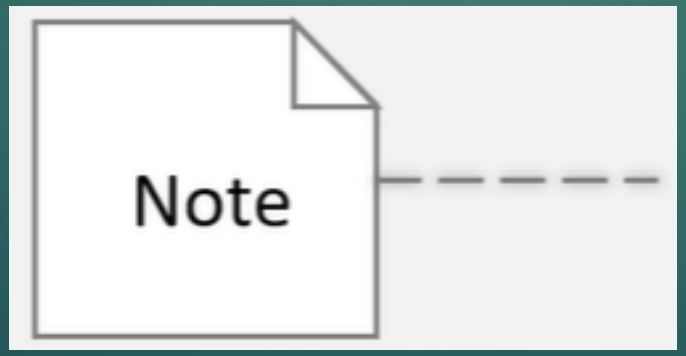
LECTURE 08

Activity Diagram

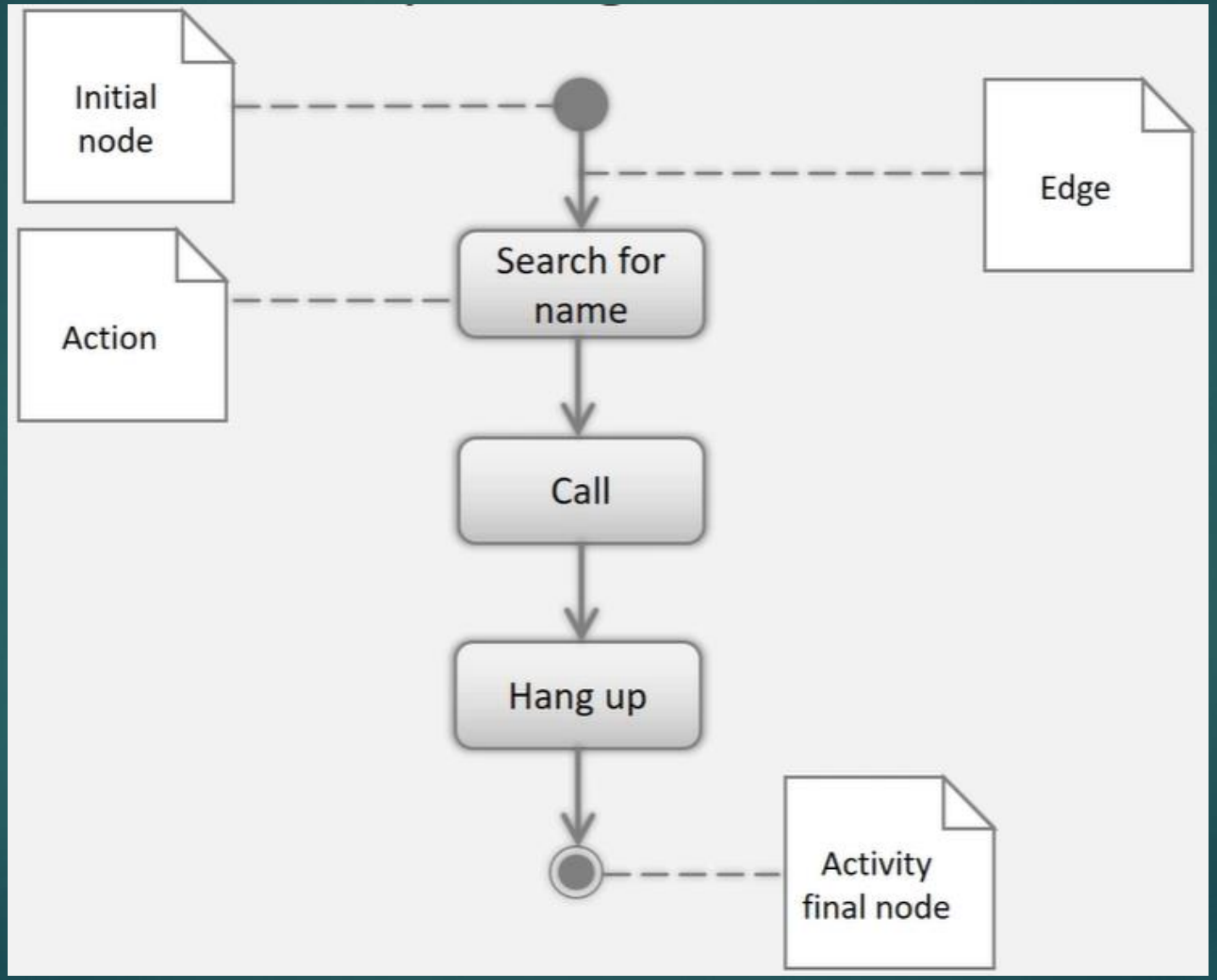
- Use case represents the system behavior
- Activity diagram is used to specify how that behavior is accomplished
- Shows high-level actions or steps that are chained together
  - Represents a process occurring in the system
- Help model a business process
- Set of coordinated tasks that achieve a business goal
  - Similar to flowchart notation

Note

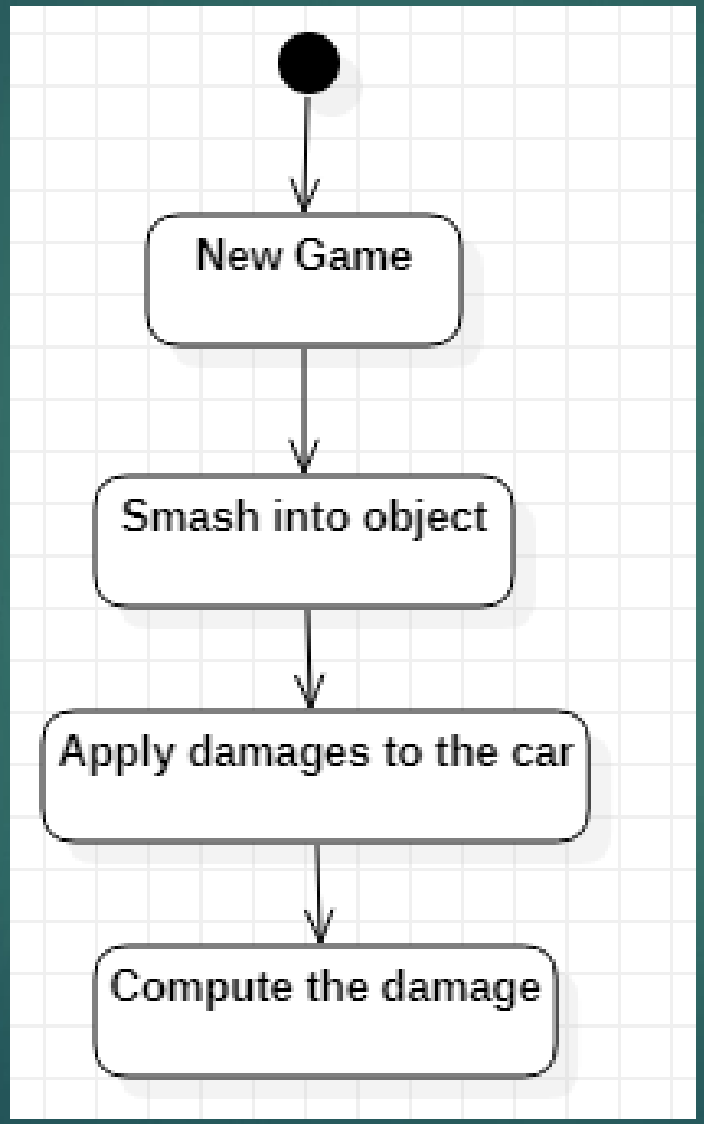
- UML element that is used to enter additional comments(that are not captured in the diagram)
- You can write anything, to explain the diagram
- For example, small fragment or important code or some essential information
- Shown as a rectangle with a folded corner



Elements

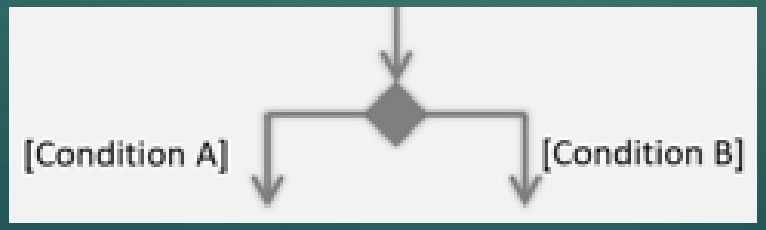

Initial node
Edge
Search for name
Action
Call
Hang up
Activity final node

- Activity diagram represents high-level actions
- Shows a business process
- Similar to flowchart
- Actions are represented as nodes

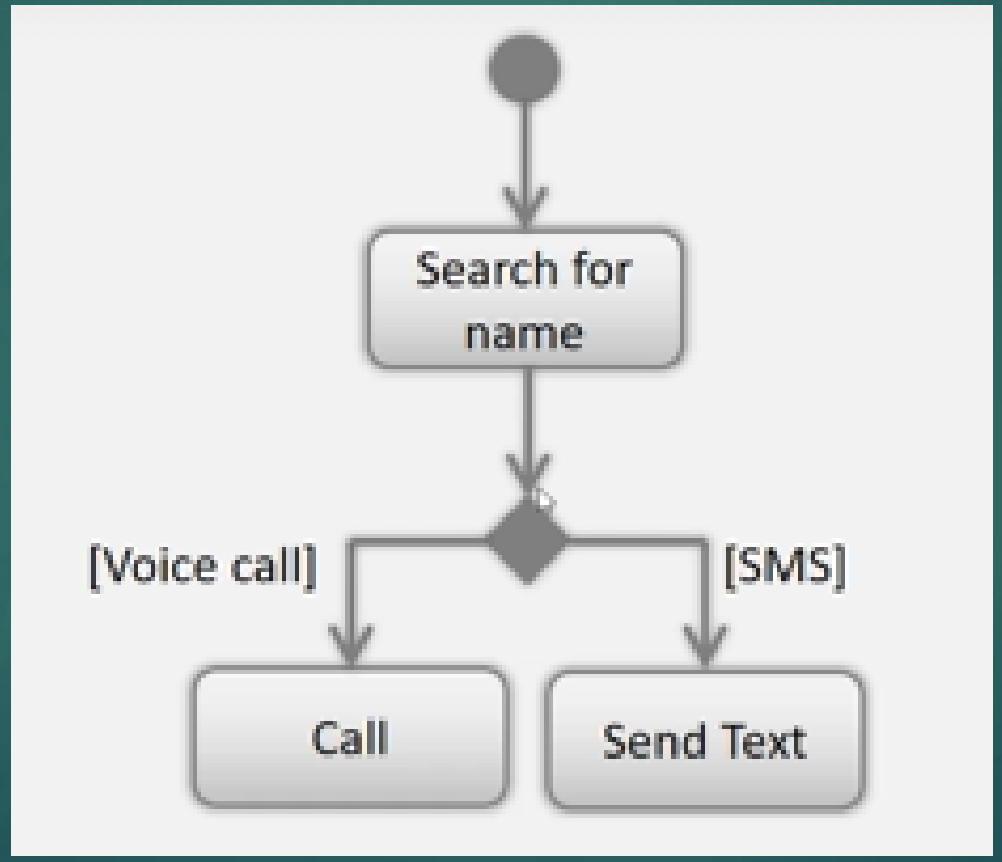

New Game
Smash into object
Apply damages to the car
Compute the damage

Decision

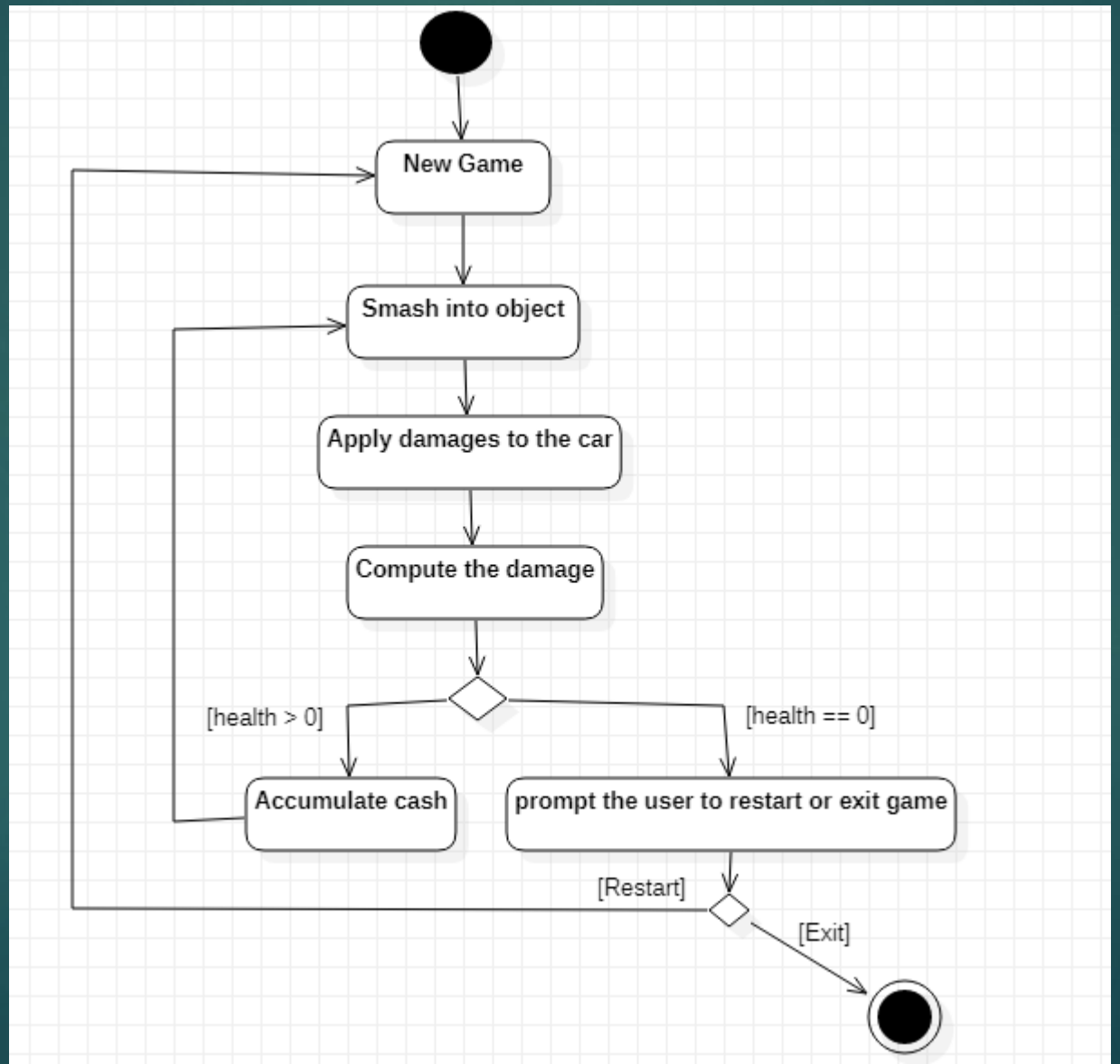
- Used when different action has to be executed based on a condition
- Represented through diamond shape
- Similar to conditional statement in code
- Has one or more incoming edges and two or more outgoing edges
- Each branch edge contains a guard condition written in brackets
- Selects only on outgoing edge



Example

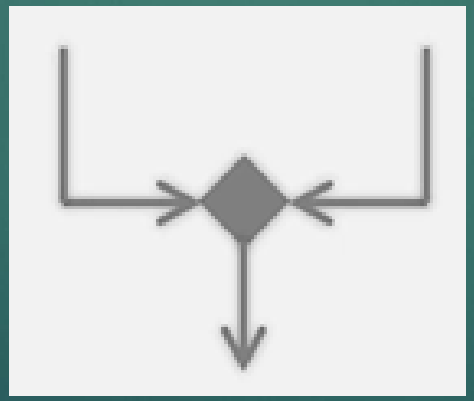


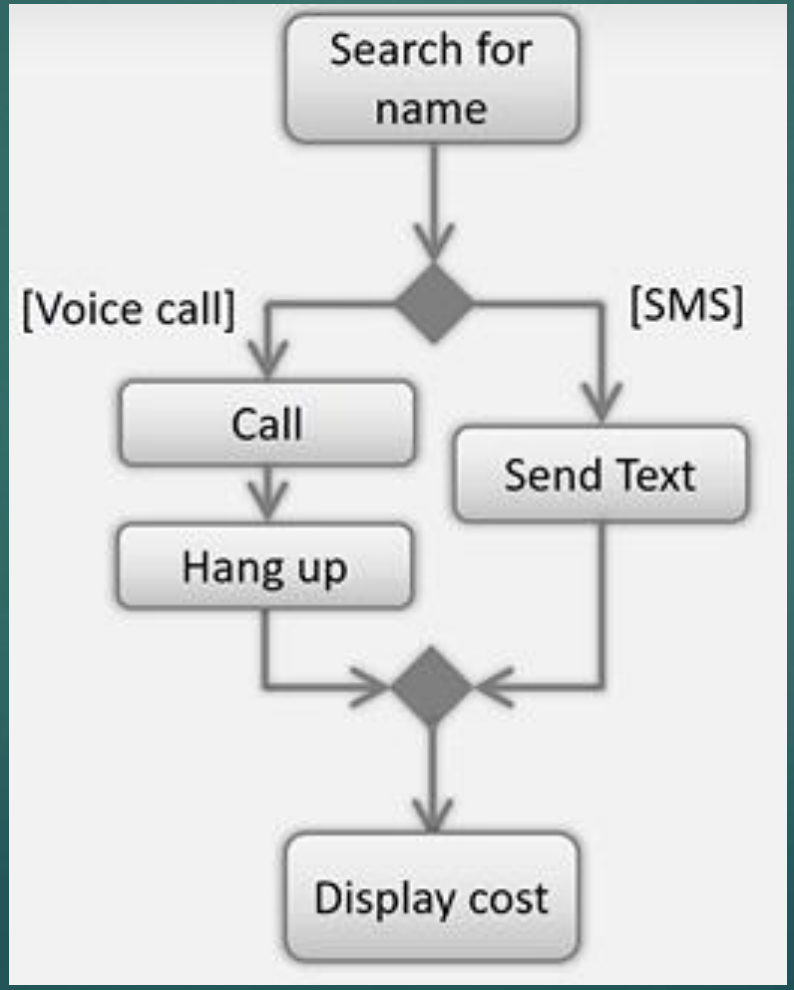
Activity diagram of Gameplay

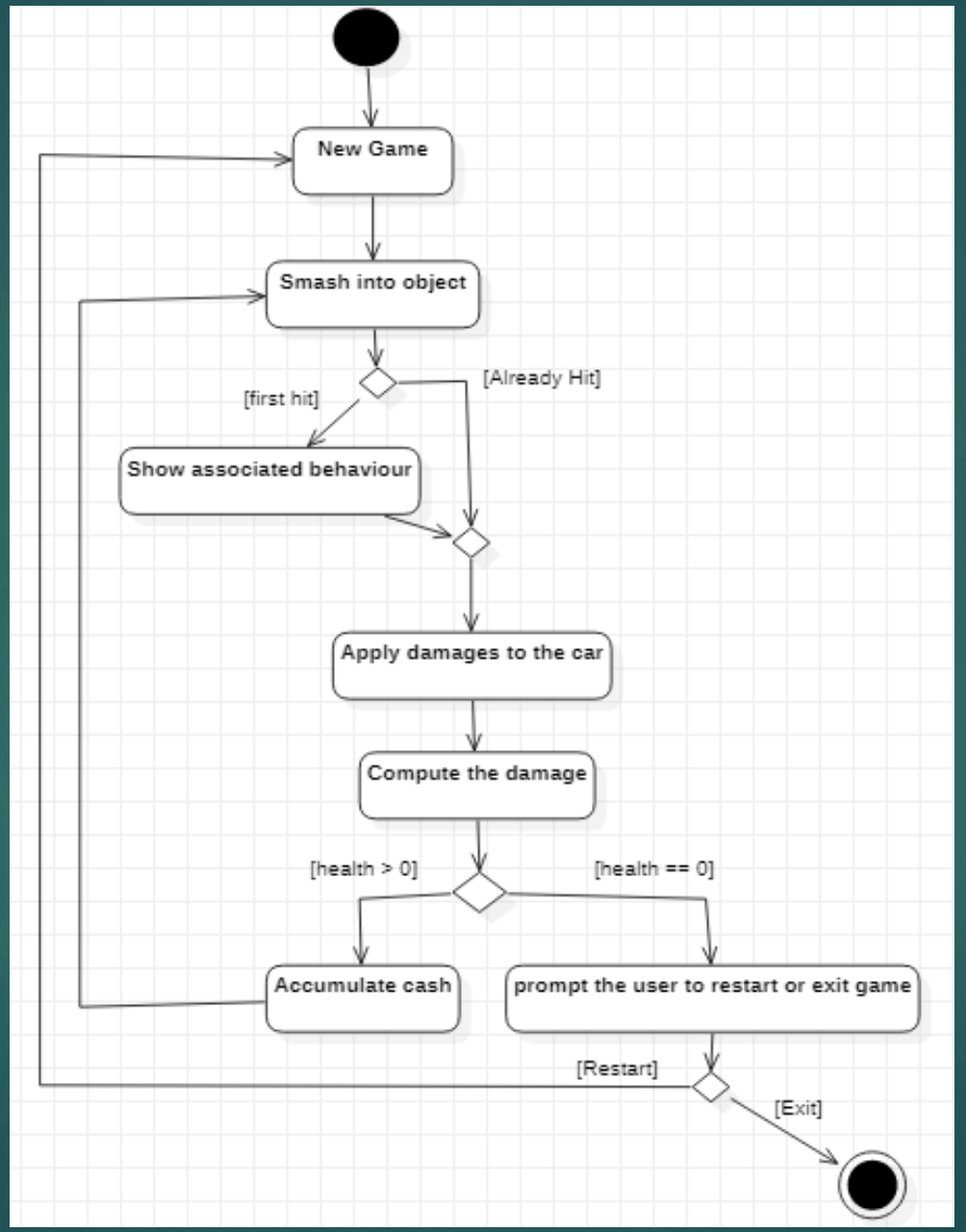


Merge

- Activity may have alternative flow
- Way through which merge multiple flow to one outgoing flow
- Merge brings together incoming alternate flows and allows single outgoing flow




Search for name
[Voice call]
[SMS]
Call
Send Text
Hang up
Display cost


New Game
Smash into object
[first hit]
[Already Hit]
Show associated behaviour
Apply damages to the car
Compute the damage
[health > 0]
[health == 0]
Accumulate cash
prompt the user to restart or exit game
[Restart]
[Exit]