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| **Academic Year:** 2024-25 | **Year:** Second Year | **Term:** II |
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| **Subject:** Software Engineering | | |
| **Assignment No.**: 7 |  | |
| **Date:** |  | |

**Lab Assignment: 07**

**Title**: Activity diagram

1. What is an Activity Diagram?

An Activity Diagram is a behavioral diagram in UML that represents the workflow or activities of a system or process. It shows the sequence of activities and the flow of control from one activity to the next. It is typically used to model business processes, workflows, and operations within a system.

2. Symbols Used in an Activity Diagram:

* Start (Initial State): Represented by a filled circle. It indicates the beginning of the activity.
* End (Final State): Represented by a filled circle with a surrounding ring. It marks the end of the process or activity.
* Fork: Represented by a thick horizontal or vertical line. It splits a single flow into multiple parallel flows.
* Join: Represented by a thick horizontal or vertical line. It merges multiple flows into a single flow.
* Decision: Represented by a diamond shape. It represents a decision point where the flow can take different paths based on conditions.
* Swimlanes: Vertical or horizontal lines that group activities based on responsibility or actor, showing which actor is responsible for each activity.

3. Difference Between Activity Diagram, Flowchart, and Sequence Diagram

* Activity Diagram: Focuses on the flow of activities within a system or process, representing parallel or sequential actions, decision points, and conditions. It's typically used for modeling workflows.
* Flowchart: A simple diagram used to represent steps in a process, often showing linear steps with basic shapes (rectangles, diamonds, and arrows).
* Sequence Diagram: Used to model the interactions between objects in a system over time. It shows object interactions in a sequence, capturing method calls, events, and responses in an organized timeline.

