

# 20 Lecture - CS504

## Important Subjective

**Q: What is the main purpose of Interaction Diagrams in UML?** **A:** The main purpose of Interaction Diagrams is to illustrate the dynamic behavior of a system by showing how objects interact and exchange messages over time.

**Q: How does a Sequence Diagram differ from a Communication Diagram?** **A:** A Sequence Diagram focuses on the chronological sequence of message exchanges between objects, while a Communication Diagram emphasizes the relationships between objects.

**Q: What do the vertical dotted lines in a Sequence Diagram represent?** **A:** The vertical dotted lines in a Sequence Diagram represent the activation lifeline of an object, indicating its presence and participation in the interactions.

**Q: What does the arrowhead in a Sequence Diagram indicate?** **A:** The arrowhead in a Sequence Diagram points in the direction of message flow, indicating the communication path between objects.

**Q: How are objects represented in a Communication Diagram?** **A:** Objects are represented with boxes in a Communication Diagram, showing their names and interactions.

**Q: What is the purpose of the numbering on messages in a Communication Diagram?** **A:** The numbering on messages in a Communication Diagram indicates the order of message exchanges between objects.

**Q: In a Sequence Diagram, how do you depict the return messages from objects?** **A:** Return messages are depicted with a dashed line and a message label in a Sequence Diagram.

**Q: How does a State Diagram represent the dynamic behavior of an object?** **A:** A State Diagram shows the different states of an object and the transitions between these states based on events and conditions.

**Q: What is the key difference between a Sequence Diagram and a Collaboration Diagram?** **A:** A Sequence Diagram shows the time sequence of message exchanges between objects, while a Collaboration Diagram emphasizes the structural relationships between objects.

**Q: How do Interaction Diagrams help in software development?** **A:** Interaction Diagrams provide a dynamic representation of object interactions, aiding in understanding and validating the system's behavior and communication flow during runtime.