**NATIONAL UNIVERSITY OF COMPUTER AND**

**EMERGING SCIENCES**

**SL-2002 – Software Design & Architecture Lab**

**Lab Instructor: Zarnain Maryam Awan**

**Lab 08**

**Collaboration or Communication Diagram:**

A collaboration diagram, also known as a communication diagram in UML (Unified Modeling Language), is a type of interaction diagram that shows how objects collaborate or communicate to achieve a specific task or scenario. It focuses on the structural organization of objects and the messages they exchange during the execution of a system. Collaboration diagrams emphasize the relationships and interactions between objects.

**Key Elements of a Collaboration Diagram:**

1. **Objects (Participants):**
   * Objects or classes involved in the scenario are represented as rectangular boxes.
   * Each object is labeled with its name.
2. **Links (Arrows):**
   * Arrows represent the messages or communication between objects.
   * Arrows indicate the direction of the message flow.
3. **Messages:**
   * Messages are labeled with the method or operation being invoked.
   * They show how objects interact with each other.

Creating a collaboration diagram, also known as a communication diagram in UML (Unified Modeling Language), involves a series of steps to visually represent how objects interact with each other to achieve a specific task or scenario. Here's a step-by-step guide to creating a collaboration diagram:

**Steps to Create a Collaboration Diagram:**

**1. Identify Objects:**

* Determine the objects or classes involved in the scenario. These could be entities like "Customer," "Order," "Product," etc.

**2. Identify Interactions:**

* Understand how these objects interact with each other. This includes method calls, messages, or any form of communication.

**3. Start with the Object Notation:**

* Place the objects in the diagram. Each object is represented by a rectangular box with the name of the object inside.

**4. Draw the Messages:**

* Draw lines between the objects to represent the messages being exchanged. Use arrows to indicate the direction of the messages.

**5. Label the Messages:**

* Label the lines with the method or message being passed between the objects.

**6. Add Stereotypes (Optional):**

* You can add stereotypes to messages to indicate the type of communication, such as **<<create>>**, **<<delete>>**, **<<update>>**, etc.

**7. Add Notes (Optional):**

* Include notes or comments to clarify any aspects of the diagram that might be unclear.

**8. Arrange Objects:**

* Organize the objects and messages in a logical sequence. Consider the flow of the interactions.

**9. Refine and Review:**

* Review the diagram to ensure it accurately represents the interactions between objects.
* Refine the diagram for clarity and consistency.