Self-learning: Use case and Sequence diagram

1. What is a sequence diagram and its purpose?
    - The sequence diagram is also called the event diagram, is an interaction diagram that shows details on how operations are carried out like what messages are sent and when.
    - Purpose:
        - Model high-level interaction between active objects in a system
        - Model the interaction between object instances within a collaboration that realizes a use case
        - Model the interaction between objects within a collaboration that realizes an operation
        - Either model generic interactions (showing all possible paths through the interaction) or specific instances of an interaction (showing just one path through the interaction)

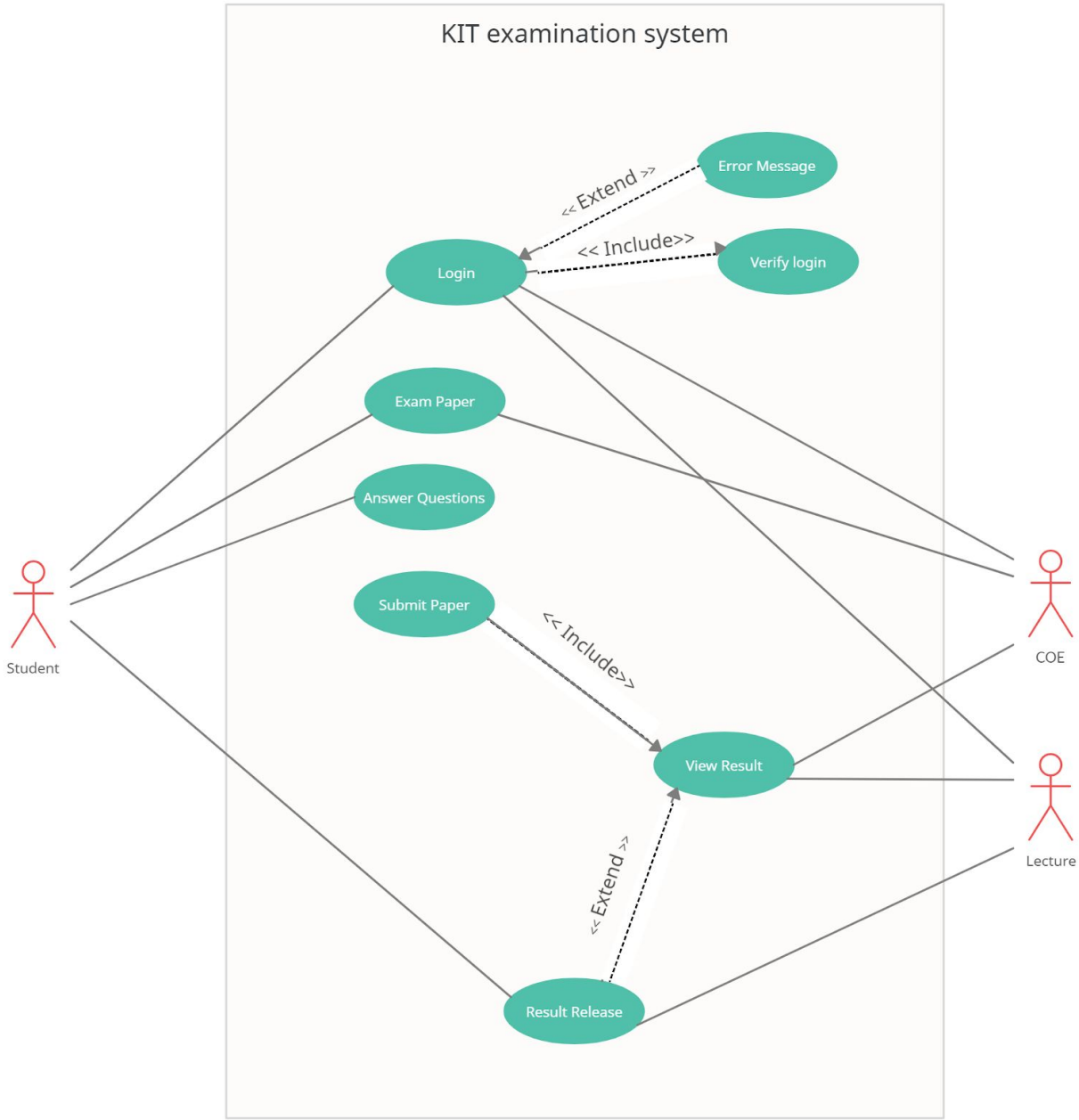
2. In which phase it is used in software engineering?
    - It is in the first phase in software engineerin which is requirement gathering and analysis.

3. Define the different components used in the Sequence diagram (Actors, objects, timeline, alternatives, etc).
    - Actors: represent roles played by human users, external hardware, or other subjects.
    - Objects: are shown as rectangles at the header in the graph.
    - Timeline: As we move from the top of the diagram towards the bottom, we are moving forward in time. If in the graph the dashed lines are called ‘time lines’.
    - Alternatives: combined fragment is used to specify an area of a group of lifelines/ actors to show conditional flow in a sequence diagram. It also models the if-then-else logic in the sequence diagram.

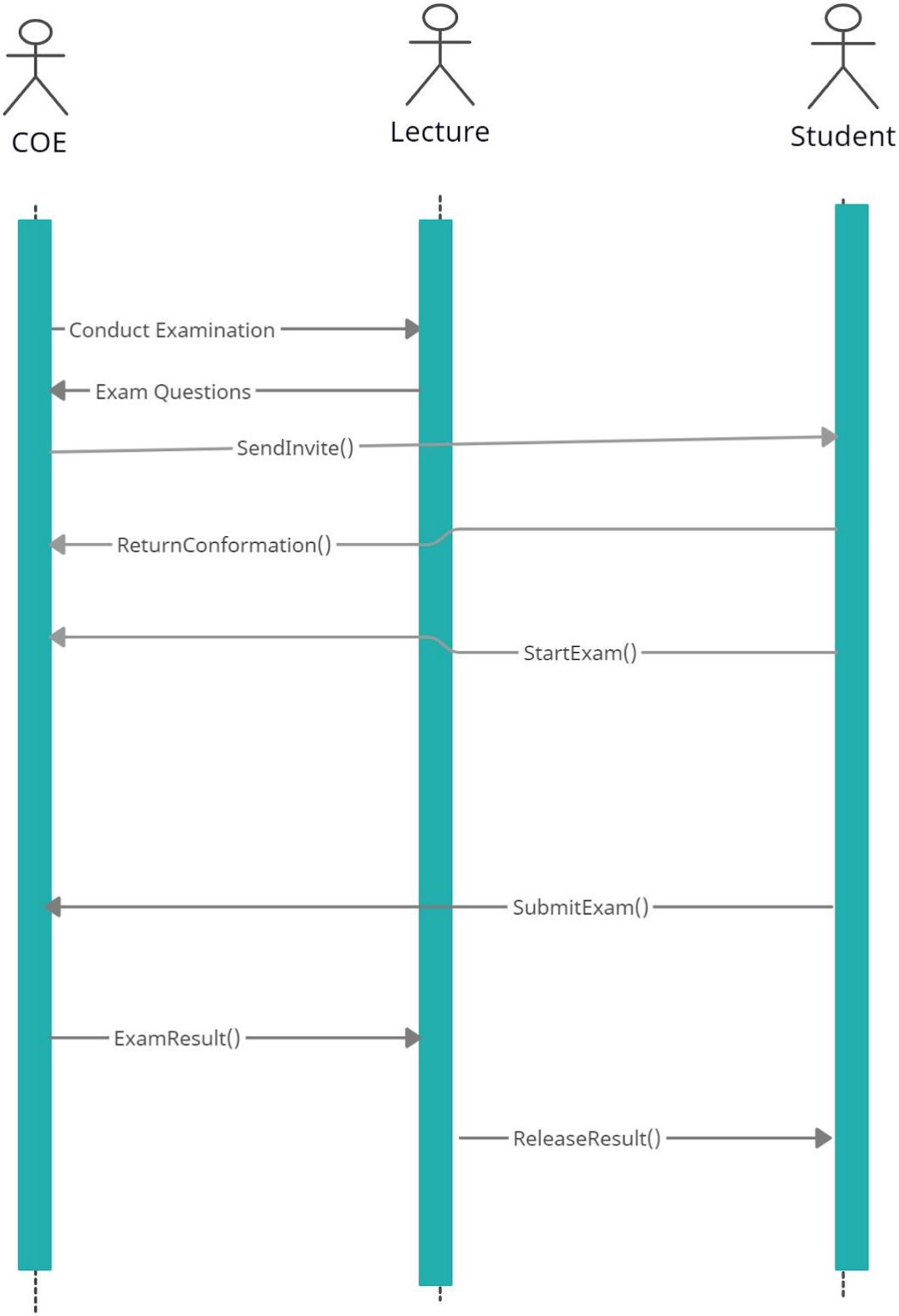
Draw sequence diagram for the following cases:

4. Draw the use case and sequence diagram for the KIT examination system (The same we have used for BPMN)

- **Use case diagram**



- **Sequence diagram**



5. Draw the use case and sequence diagram for buying food from container cafe (Include payment options - Credit card, Netbanking, and cash payment)

- **Use case diagram**