Experiment No. 4. Design Sequence diagram for Automated Teller Machine.

Aim: To understand the concept of Sequence diagram.

Software Required: ArgoUML

Theory:

A **Sequence diagram** is a type of interaction diagram because it describes how and in what order a group of objects work together. It is also known as event diagram or event scenario.

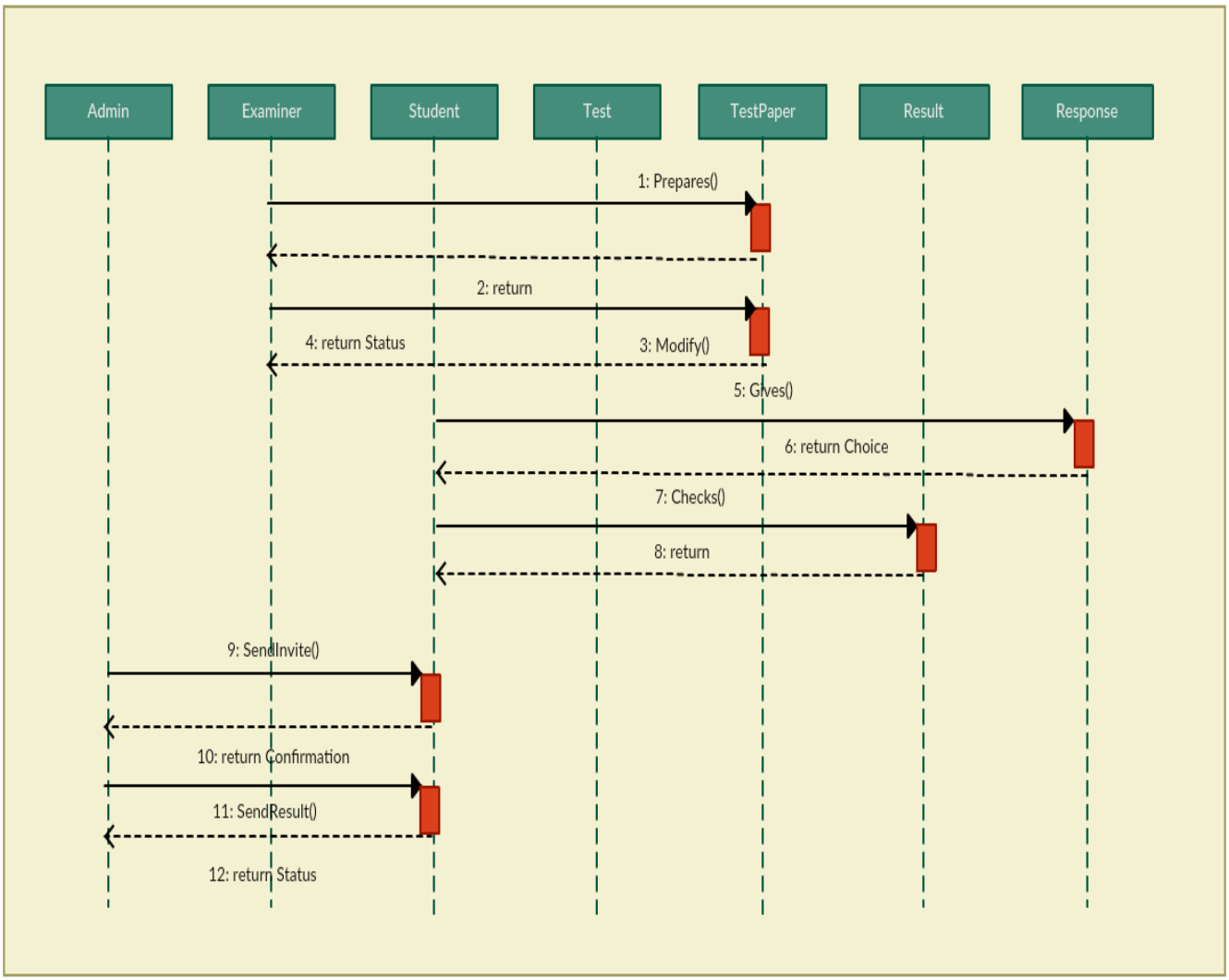

Fig. 4.1 Sequence Diagram of an Online Exam System

Automated Teller Machine: An automated teller machine (ATM) is an electronic telecommunications device that enables customers to perform financial transactions, such as cash withdrawals, deposits, transfer funds, or obtaining account information, at any time and without the need for direct interaction with bank staff.

- Clients may take money from their accounts, deposit money or ask for their current balance.
- All these operations are accomplished using either automatic teller machines (ATM) or counter tellers.
- Transactions on an account may be done by cheque, standing order or using the teller machine and card.

- There are two kinds of account: savings account and current account.
- When a cheque is deposited it must be cleared before the funds can be used by the depositor.

Viva Question:

1. What is Sequence diagram?
2. How to model exception handling in Sequence diagram?
3. What is the difference between Sequence diagram and communication (i.e. Collaboration) diagram?
4. Can a Sequence diagram be replaced by communication diagram?
5. How time duration of an event can be identified?

Experiment No. 5. Design Activity diagram for Employee Management System.

Aim: To understand the concept of Activity diagram.

Software Required: ArgoUML

Theory:

Activity diagrams consist of activities, states and transitions between activities and states.

Activity diagrams describe-

- How activities are coordinated to provide a service.
- The events needed to achieve some operation.
- How the events in a single use case relate to one another.
- How a collection of use cases coordinate to create a workflow for an organization.

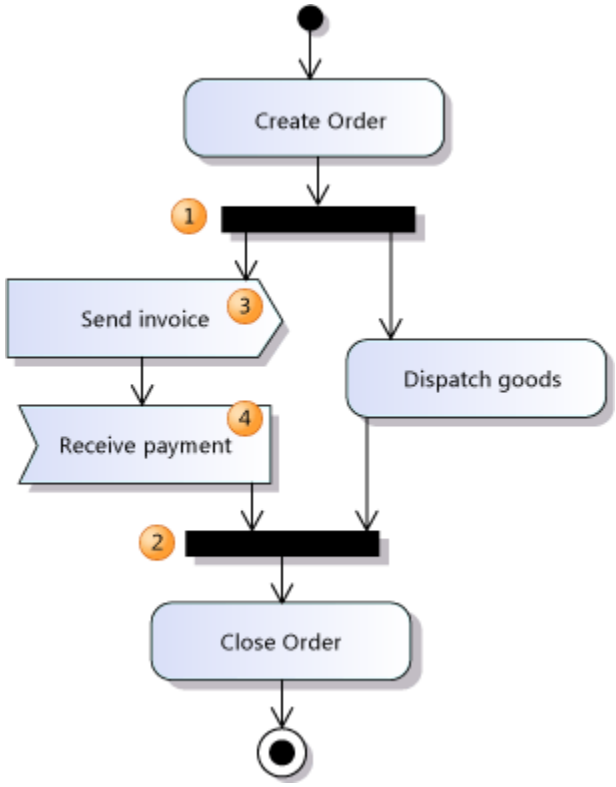

Fig. 5.1 Activity Diagram for Billing

Employee Management System:

This system includes the information system for managing the staff data within a company or organization. The system has been developed is called Employee Management System. The following features of the systems are:

- We can keep the record of employee data such as insert, update delete employee from system.
- Calculate salary of the employee.

Viva Question:

1. What is the use of Activity diagram?
2. What do you mean by fork and join?
3. How we represent condition in Activity diagram?
4. What is the difference between Activity diagram and Sequence diagram?
5. How to identify activity of the system?

Experiment No. 6. Design State chart diagram for Airline Reservation System.

Aim: To understand the concept of State chart diagram.

Software Required: ArgoUML

Theory:

State chart diagram describes the flow of control from one state to another state. States are defined as a condition in which an object exists and it changes when some event is triggered. The most important purpose of State chart diagram is to model lifetime of an object from creation to termination.

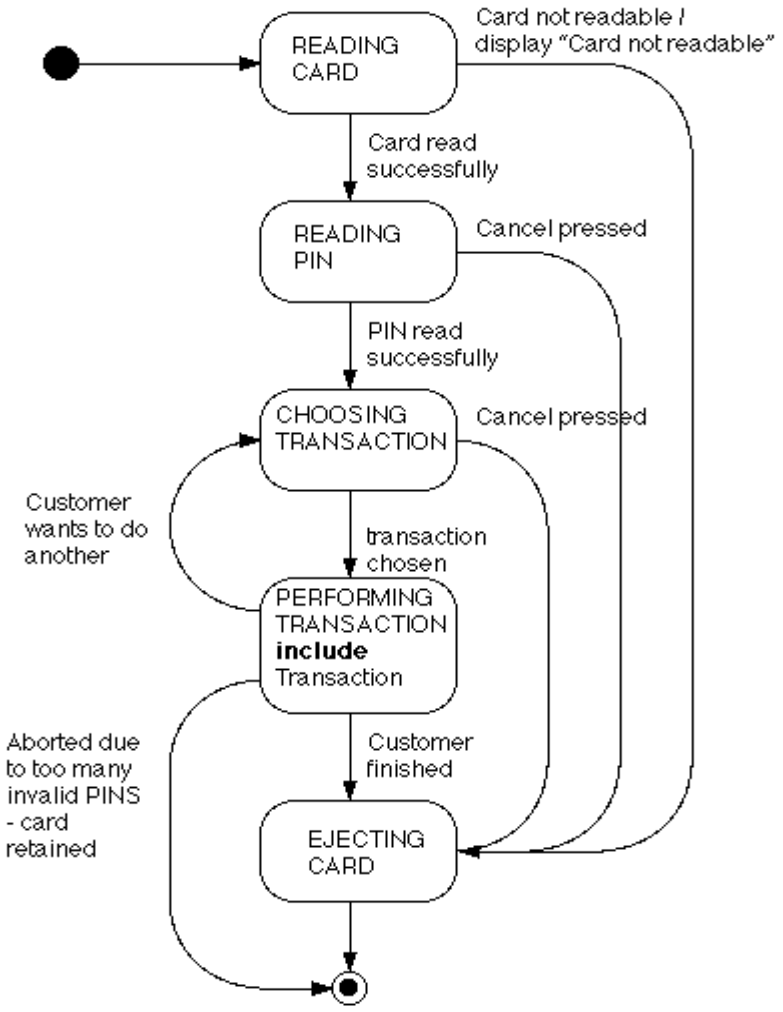

Fig. 6.1 State chart diagram for ATM

Airline Reservation System:

Airline reservation systems incorporate airline schedules, fare tariffs, passenger reservations and ticket records. An airline's direct distribution works within their own reservation system, as well as pushing out information to the global distribution system (GDS).

Viva Question:

1. What is the difference between a State diagram and a Flowchart?
2. How to represent initial state?
3. What is transition junction point?
4. How to represent termination of object in State chart diagram?
5. What do you mean by concurrent region in State diagram?