SEQUENCE DIAGRAM:

A sequence diagram is a graphical view of a scenario that shows object interaction in a time based sequence. Sequence diagrams establish the roles of objects and help provide essential information to determine class responsibilities and interfaces.

In Sequence diagram the vertical dimension represents time and all objects involved in the interaction are spread horizontally across the diagram.

Time normally proceeds down the pages. However, a sequence diagram may be drawn with a horizontal time axis if required, and in this case, time proceeds from left o right across he page. Each object is represented by a vertical dashed line, called a lifeline, with an object symbol at the top. A message is shown by a solid horizontal arrow from one lifeline to another and is labeled with the message name. Each message name may optionally be preceded by a sequence number that message number that represents the sequence in which the messages are sent, but this is not usually necessary on a sequence diagram since the message sequence is already conveyed by their relative positions along time axis.

Steps:

1. An object is shown as a box at the top of a dashed vertical line. Object names can be specific (e.g., Algebra 101, Section 1) or they can be general (e.g., a course offering). Often, an anonymous object (class name may be used to represent any object in the class.)

2. Each message is represented by an Arrow between the lifelines of two objects. The order in which these messages occur is shown top to bottom on the page. Each message is labeled with the message name.

Purpose of sequence diagrams:

- A sequence diagram is an interaction diagram that emphasizes the time ordering of messages.

- The sequence diagram is used primarily to show the interactions between objects in the sequential order that those interactions occur.

- One of the primary uses of sequence diagrams is in the transition from requirements expressed as use cases to the next and more formal level of refinement. Use cases are often refined into one or more sequence diagrams.

- In addition to their use in designing new systems, sequence diagrams can be used to document how objects in an existing (call it “legacy”) system currently interact. This documentation is very useful when transitioning a system to another person.

- The main purpose of a sequence diagram is to define event sequences that result in some desired outcome. The focus is less on messages themselves and more on the order in which messages occur; nevertheless, most sequence diagrams will communicate what messages are sent between a system’s objects as well as the order in which they occur.

- The diagram conveys this information along the horizontal and vertical dimensions: the vertical dimension shows, top down, the time sequence of messages/calls as they occur, and the horizontal dimension shows, left to right, the object instances that the messages are sent.

ELEMENTS OF SEQUENCE DIAGRAMS:

There are mainly five elements in sequence diagrams. Three of them are common to the two interaction diagrams and two are for sequential diagrams. They are-

- Objects
- Links
- Messages
- Focus of control
- Object lifeline

An **object** is a concrete manifestation of a class to which a set of operations can be applied and which has a state that stores the effects of the operations. Objects are instances of classes. A link is a semantic connection among objects. In general, a link is an instance of an association. Whenever a class has an association to another class, there may be a link between the instances of the two classes; whenever there is a link between two objects, one object can send a message to the other object.

A **message** is the specification of communication among objects that conveys information with expectation that activity will ensure. The receipt of message instance may be considered an instance of an event. When a message is passed, the action that results is an executable statement. An action may result in a change in state.

The **focus of control** is a tall, think rectangle that shows the period of time during which an object is performing an action, either directly or through a subordinate procedure.

An **object lifeline** is a vertical dashed line that represents the existence of an object over a period of time. Most objects that appear in an interaction diagram will be in existence of an object over a period of time. Most objects that appear in an interaction diagram will be in existence for the duration of the interaction.

Message to self: A message to self is a tool that sends a message from one object back to the same object. It does not involve other objects because the message returns to the same object. The sender of a message is the same as the receiver.

Sequence diagram for Admin:

1. The admin enter the user name and password

2. He will start the user interface

3 .The user interface displays a set of options

4. Admin can add/delete a student

5. Admin can also update the student information

6. The user displays that the student info is added/deleted or updated.

7. Admin again start interface to add attendance record to database.

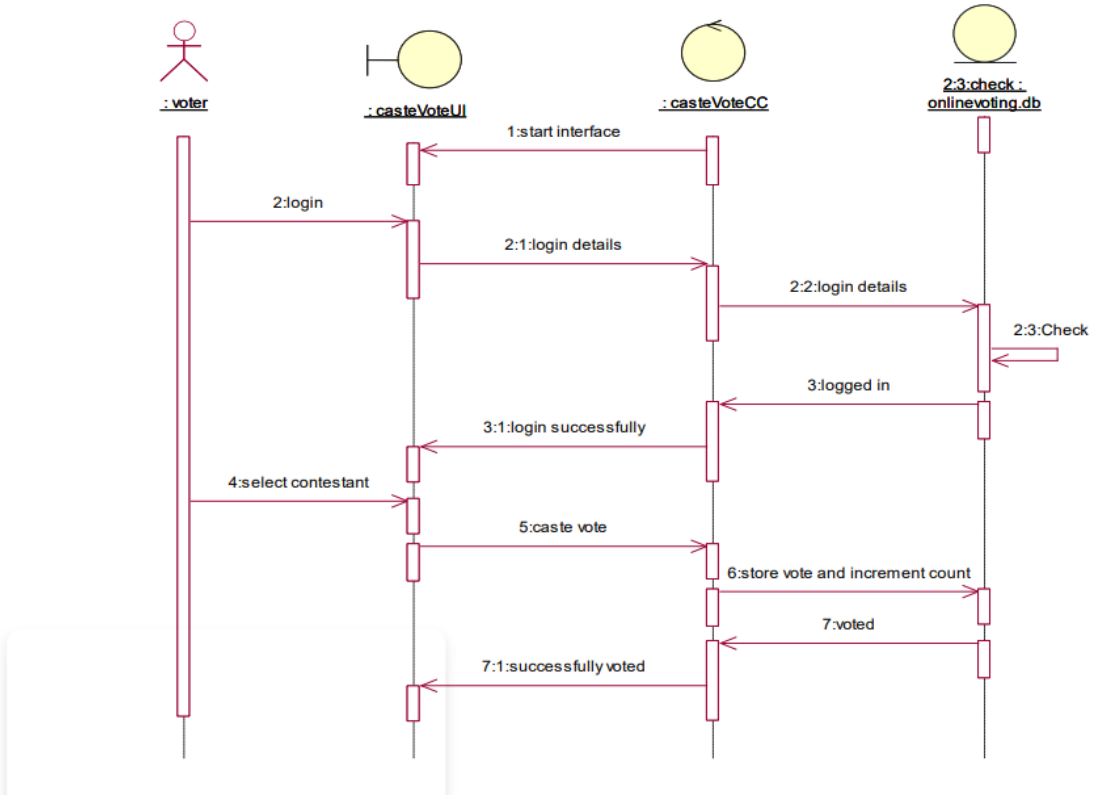
8. The records will be added by specifying regd.no, sec, year of the student.

9. The user interface displays the records uploaded.

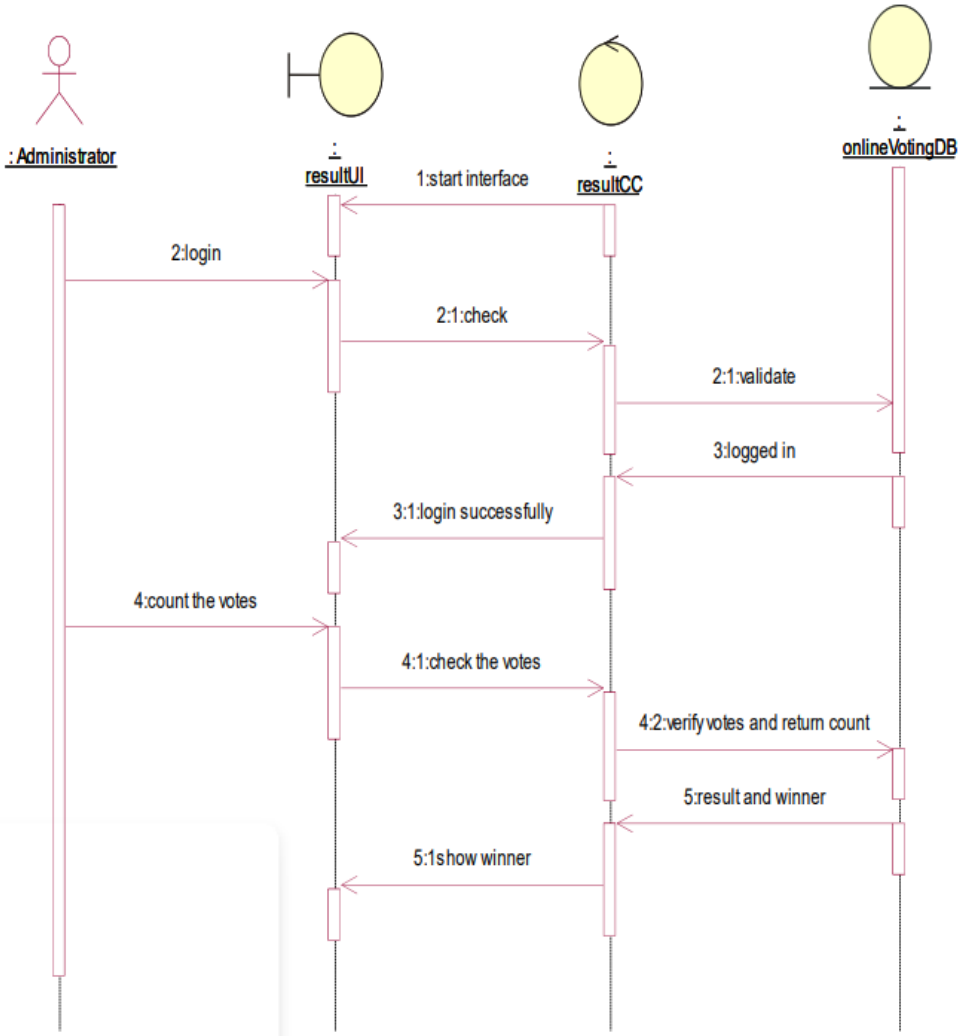
10. The Admin can view the evaluation records submitted by students.

SEQUENCE DIAGRAM FOR ONLINE VOTING SYSTEM

SEQUENCE DIAGRAM FOR CASTE VOTE:



SEQUENCE DIAGRAM FOR DISPLAY RESULT:



SEQUENCE DIAGRAM FOR LOGIN: