

[FE][T347] Development Technology

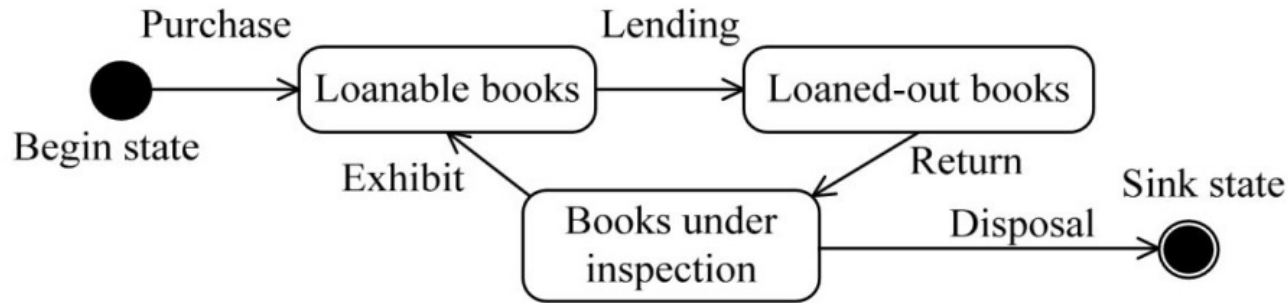
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Which of the following is a diagram that is used for modeling the event-driven or discrete behavior of an object in UML 2.x (i.e., UML 2.0 or later)?

- a) Activity diagram
- b) Sequence diagram
- c) Object diagram
- d) State machine diagram

Answer Explanation

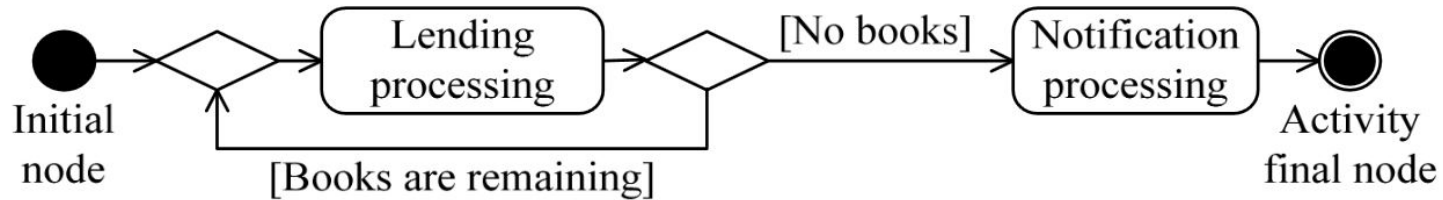
State machine diagram or Statechart diagram a diagram that represents the state transitions which occurs during object life cycles. 'Event driven' refers to event-driven programming in which the flow of the program is determined by events such as user actions (mouse clicks, key presses), sensor outputs, or messages from other programs/threads. So, a state machine diagram models the behavior of a single object, specifying the sequence of events that an object goes through during its lifetime in response to events. The figure below shows a state machine diagram. Therefore, d) is the correct answer.



Answer Explanation

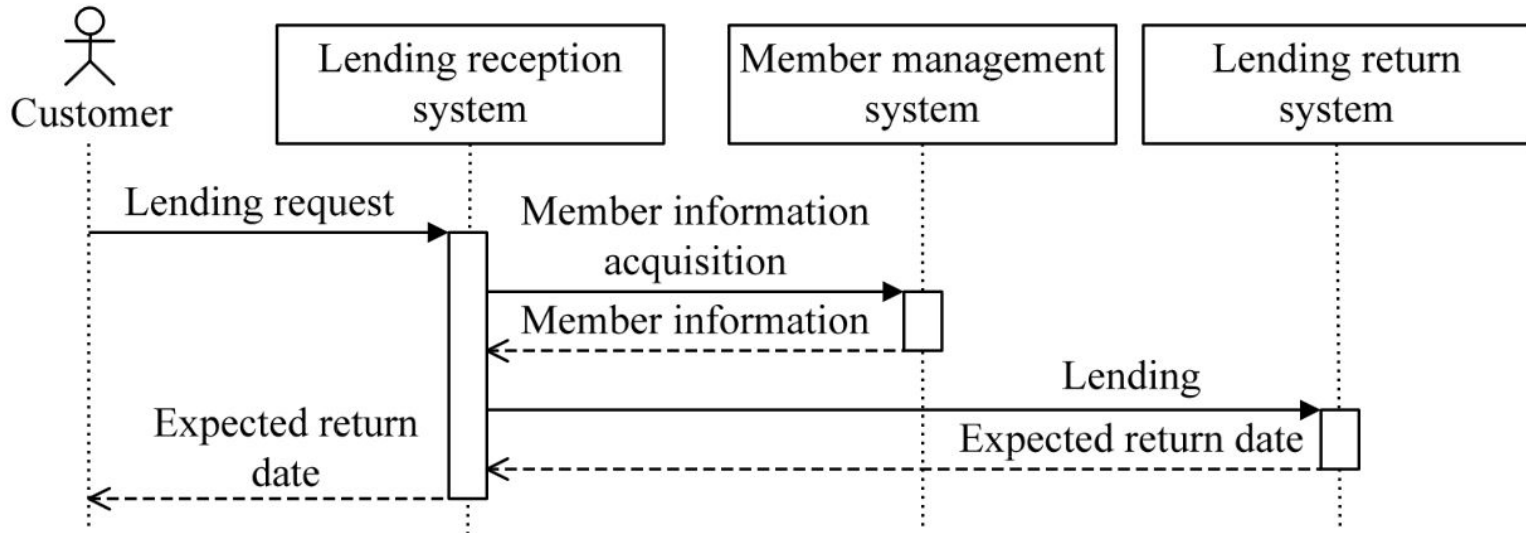
The other options are explained below.

- a) Activity diagram represents the flow of systems and work. In UML, an activity diagram is used to display the sequence of activities. Activity diagrams show the workflow from a start point to the finish point detailing the many decision paths that exist in the progression of events contained in the activity. Activity diagrams are useful for business modeling where they are used for detailing the processes involved in business activities. The figure below shows an activity diagram.



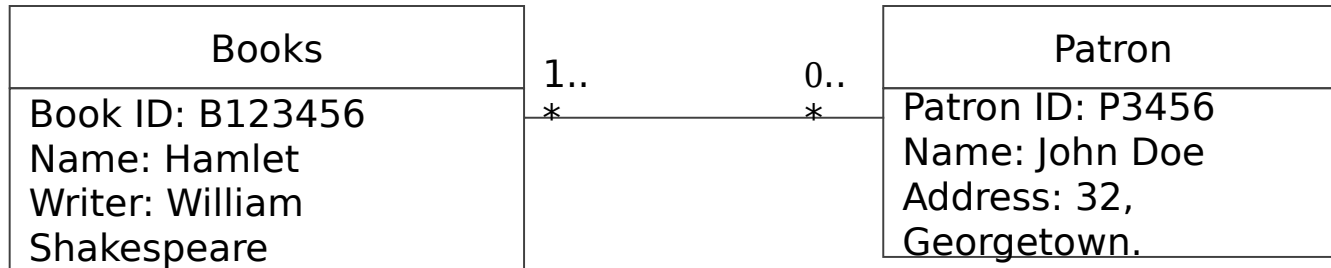
Answer Explanation

- b) Sequence diagram is a type of interaction diagram (i.e., a diagram that depicts exchange of messages among objects), and represents message transmission and object lifelines in a time series. The figure below shows a sequence diagram.



Answer Explanation

- c) Object diagram represents the relationships among objects (i.e., instances). Object diagrams and class diagrams are closely related and use almost identical notation. Both diagrams are meant to visualize static structure of a system. While class diagrams show classes, object diagrams display instances of classes. The figure below shows an object diagram.



Correct Answer

Answer <d>