UNIT-2 IMPORTANT QUESTION WITH ANSWERS

1. BRIEFLY EXPLAIN THE SEQUENCE DIAGRAMS WITH EXAMPLE?

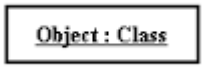
SEQUENCE DIAGRAM

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

BASIC SEQUENCE DIAGRAM SYMBOLS AND NOTATIONS

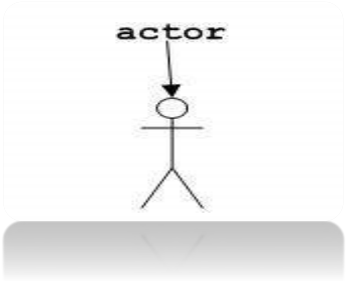
1. OBJECT

Objects are instances of classes, and are arranged horizontally. The pictorial representation for an Object is a class (a rectangle) with the name prefixed by the object name (optional) and a semi-colon.



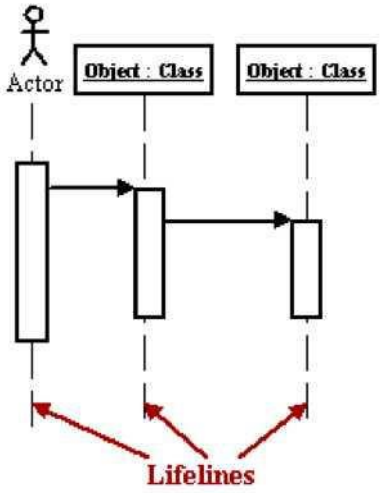
2. ACTOR

Actors can also communicate with objects, so they too can be listed as a column. An Actor is modeled using the ubiquitous symbol, the stick figure.



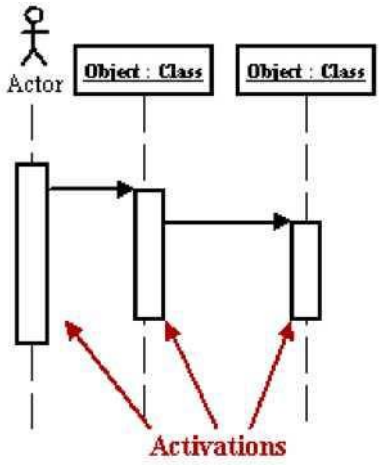
3. LIFELINE

The Lifeline identifies the existence of the object over time. The notation for a Lifeline is a vertical dotted line extending from an object.



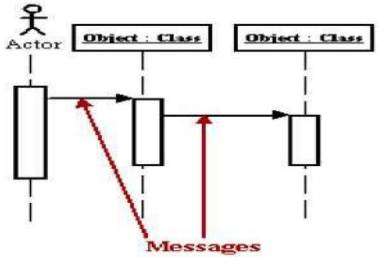
4. ACTIVATION BAR

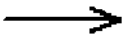
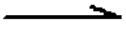
Activations, modeled as rectangular boxes on the lifeline, indicate when the object is performing an action



5. MESSAGE

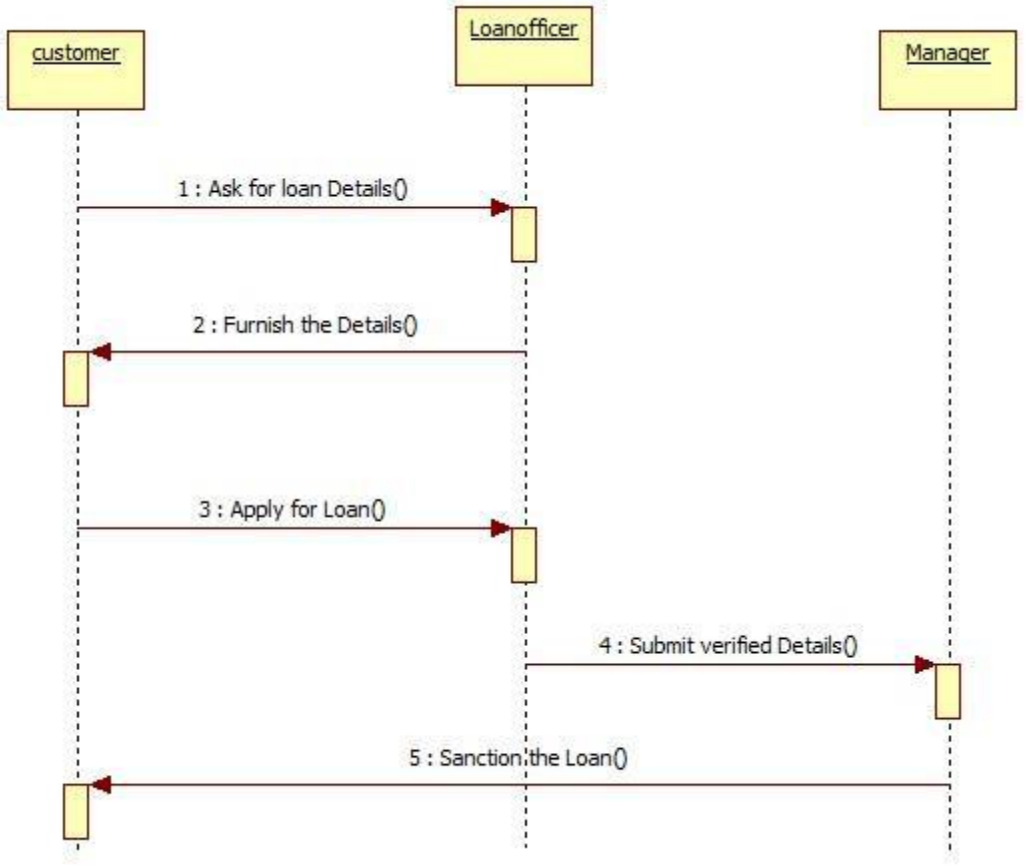
Messages, modeled as horizontal arrows between Activations, indicate the communications between objects.



Arrow	Message type
	Simple
	Synchronous
	Asynchronous
	Balking
	Time out

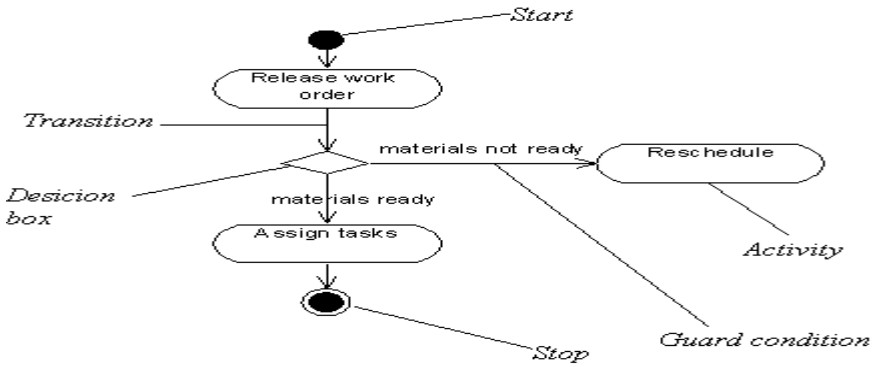
EXAMPLE

SEQUENCE DIAGRAM OF AN BANKING SYSTEM



2. EXPLAIN THE TERMS AND CONCEPTS OF ACTIVITY DIAGRAMS?

BASIC ACTIVITY DIAGRAM SYMBOLS AND NOTATIONS



ACTIVITY:

It is a major task that must take place in order to fulfill an operation contract.

INITIAL ACTIVITY*:*

This shows the starting point of the flow. It is denoted by solid circle

FINAL ACTIVITY*:*

This shows the end of the flow in the activity diagram. It is denoted by a solid circle nested in a circle.

DECISION BOX*:*

A point in an Activity diagram where a flow splits into several mutually exclusive guarded flows. It has one incoming transition and two outgoing
transitions.

FORKING AND JOINING:

We use synchronization bar to specify the forking and joining of parallel flows of control.

SYNCHRONIZATION BAR:

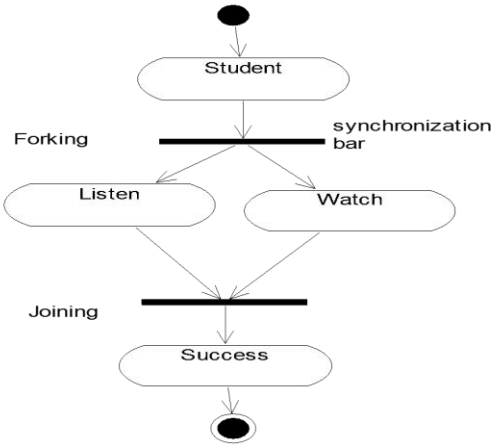
A *synchronization bar* is a thick horizontal or vertical line.

FORK:

A Fork may have one incoming transition and two or more outgoing transitions, each of which represents an independent flow of control.

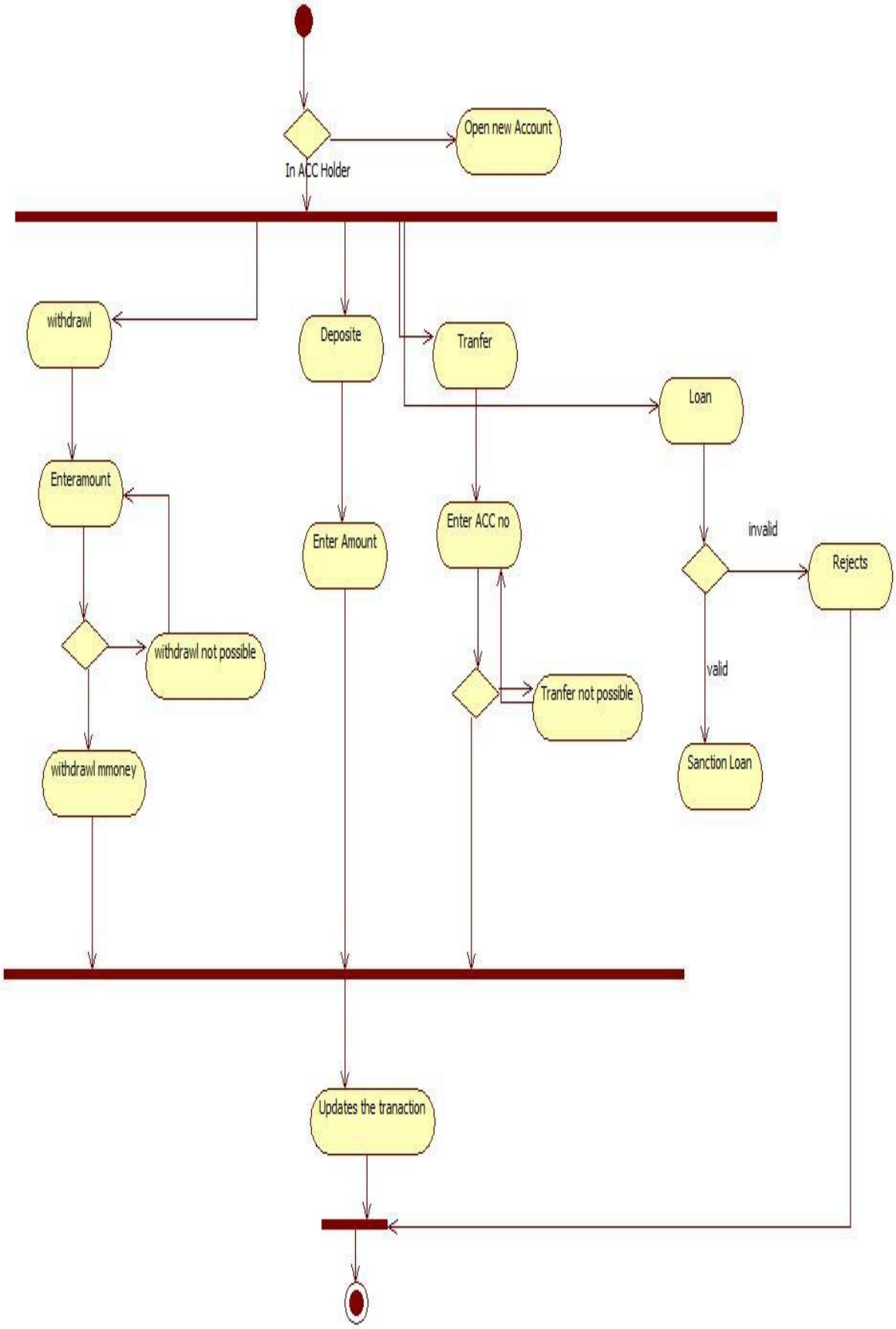
JOIN:

A Joinmay have two or more incoming transitions and one outgoing transition.

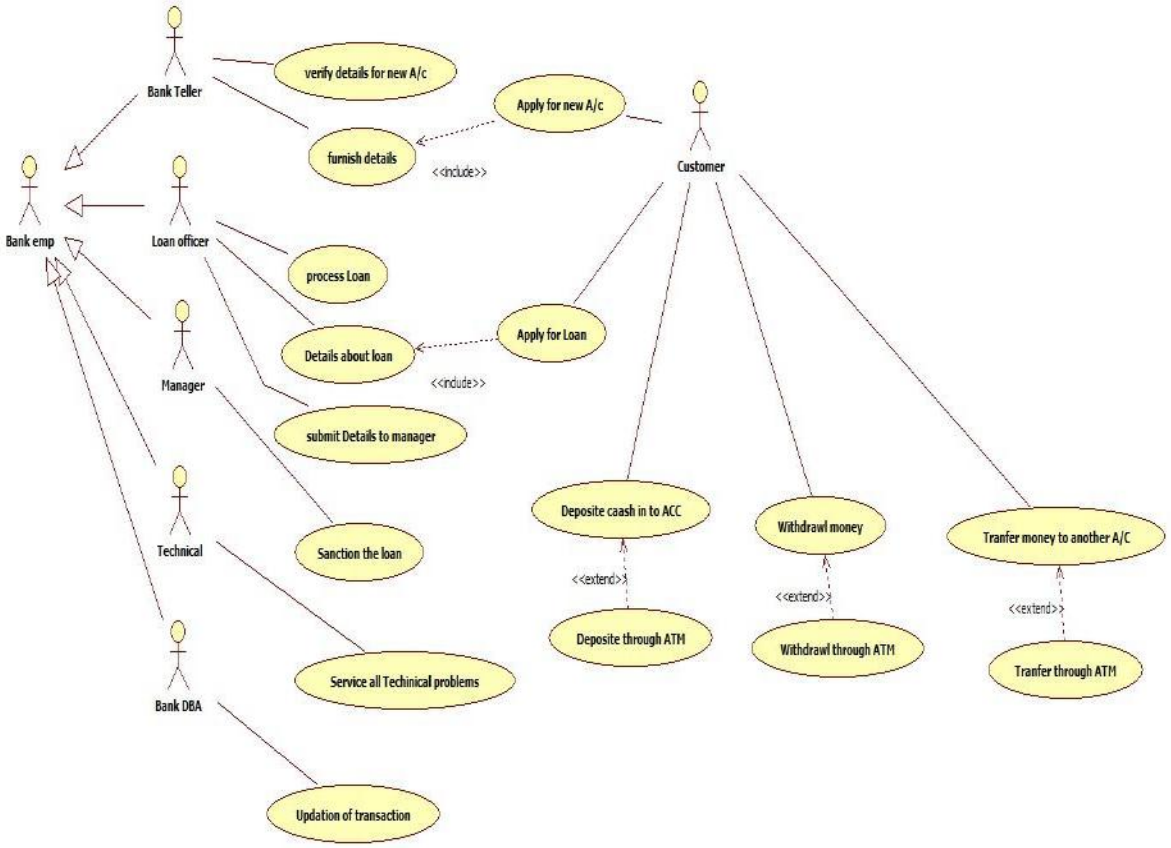


EXAMPLE

ACTIVITY DIAGRAM OF AN BANKING SYSTEM


Open new Account
In ACC Holder
withdrawl
Deposite
Tranfer
Loan
Enteramount
Enter Amount
Enter ACC no
invalid
Rejects
withdrawl not possible
Tranfer not possible
valid
withdrawl mmoney
Sanction Loan
Updates the tranaction

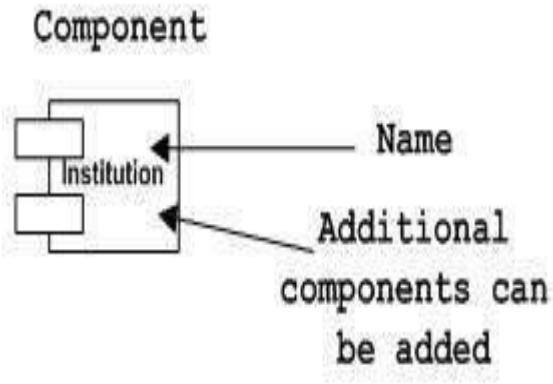
3. DRAW USE CASE DIAGRAM FOR BANKING SYSTEM?



4. BRIEFLY EXPLAIN THE COMPONENT DIAGRAMS?

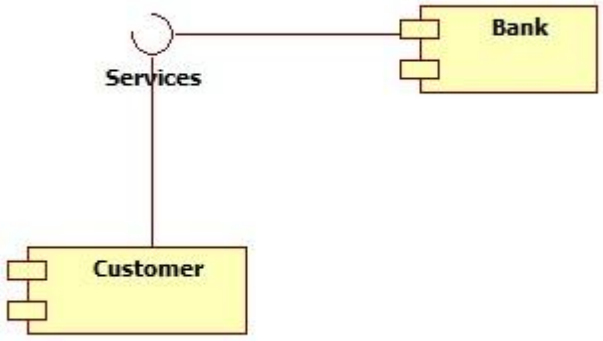
COMPONENT DIAGRAM

- ✓ A Component diagram shows the organizations and dependencies among a set of components.
- ✓ Component is used to represent any part of a system for which UML diagrams are made.



EXAMPLE

COMPONENT DIAGRAM FOR BANKING SYSTEM



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5. EXPLAIN THE USE CASE DIAGRAMS BRIEFLY WITH EXAMPLE?

USE CASE DIAGRAM

Use Case diagrams identify the functionality provided by the system (use cases), the users who interact with the system (actors), and the association between the users and the functionality. Use Cases are used in the Analysis phase of software development to articulate the high-level requirements of the system.

The primary goals of Use Case diagrams include:

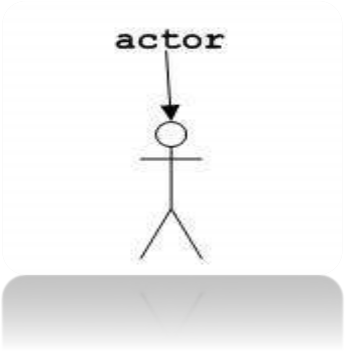
- ✓ Providing a high-level view of what the system does
- ✓ Identifying the users ("actors") of the system
- ✓ Determining areas needing human-computer interfaces.

BASIC USE CASE DIAGRAM SYMBOLS AND NOTATIONS

The basic components of Use Case diagrams are the Actor, the Use Case, and the Association.

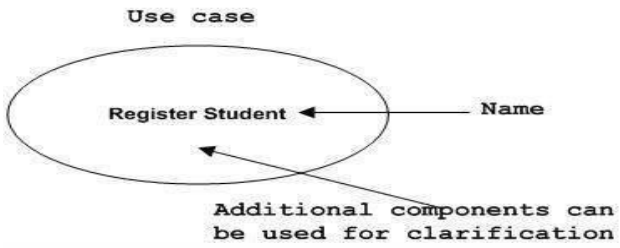
1. ACTOR

An Actor, as mentioned, is a user of the system, and is depicted using a stick figure. The role of the user is written beneath the icon. Actors are not limited to humans. If a system communicates with another application, and expects input or delivers output, then that application can also be considered an actor.



2. USE CASE

A Use Case is functionality provided by the system, typically described as verb+object (e.g. Register Car, Delete User). Use Cases are depicted with an ellipse. The name of the use case is written within the ellipse.

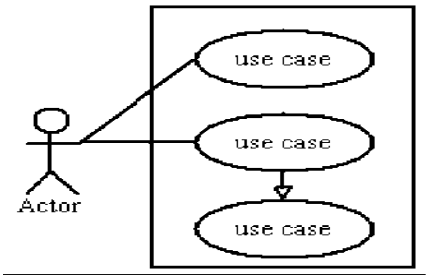


3. ASSOCIATION

Associations are used to link Actors with Use Cases, and indicate that an Actor participates in the Use Case in some form. Associations are depicted by a line connecting the Actor and the Use Case.

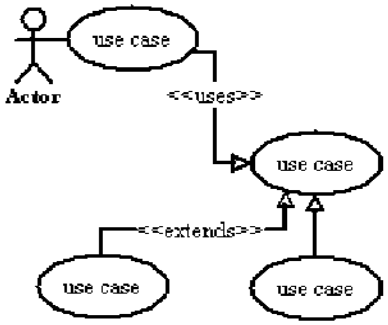
4. SYSTEM

Draw your system's boundaries using a rectangle that contains use cases. Place actors outside the system's boundaries.

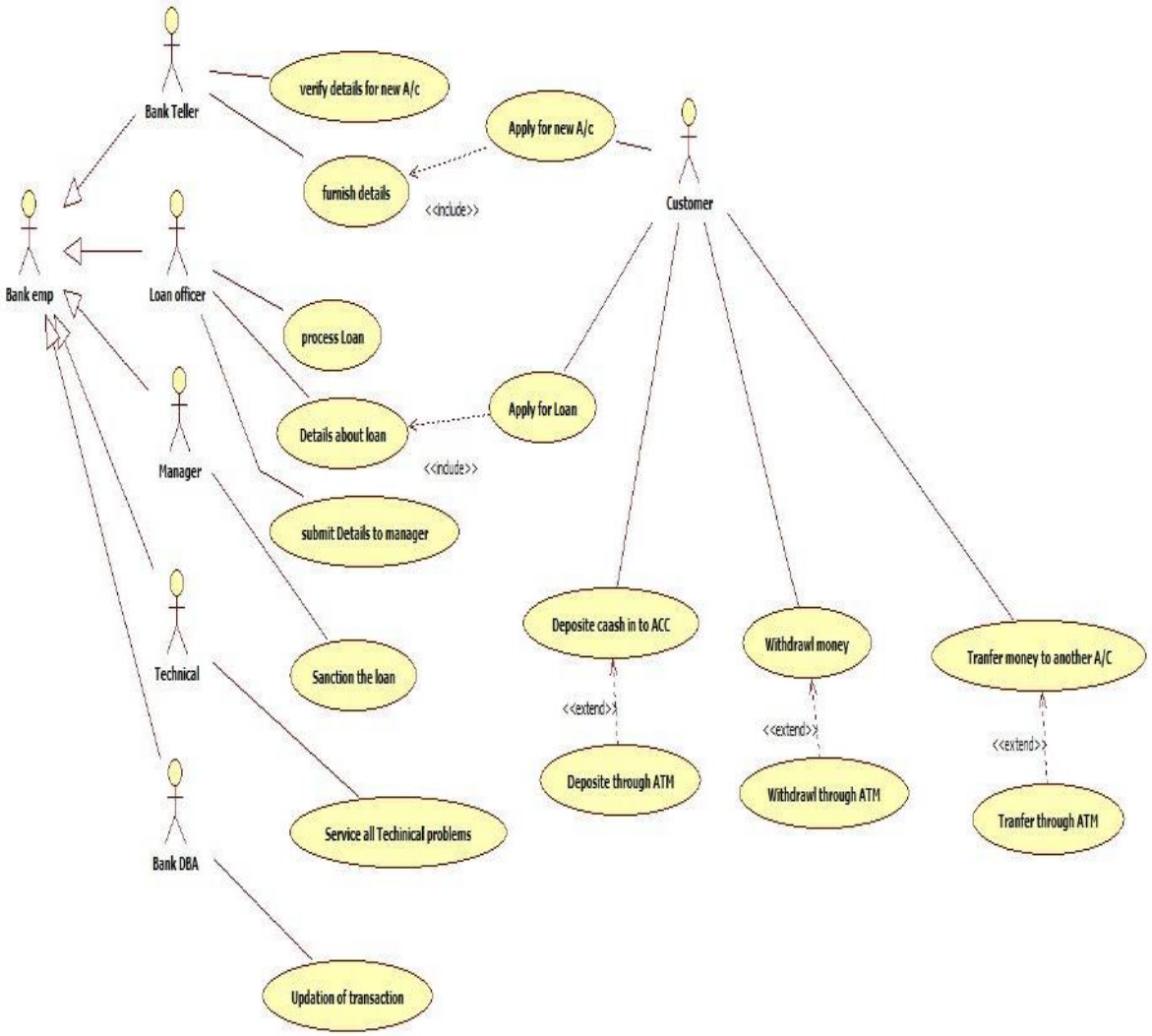


5. RELATIONSHIPS

The relationships between an actor and a use case with a simple line. For relationships among use cases, use arrows labeled either "uses" or "extends." A "uses" relationship indicates that one use case is needed by another in order to perform a task. An "extends" relationship indicates alternative options under a certain use case.



EXAMPLE :
USE CASE DIAGRAM FOR BANKING SYSTEM



6. EXPLAIN DEPLOYMENT DIAGRAMS WITH EXAMPLE?

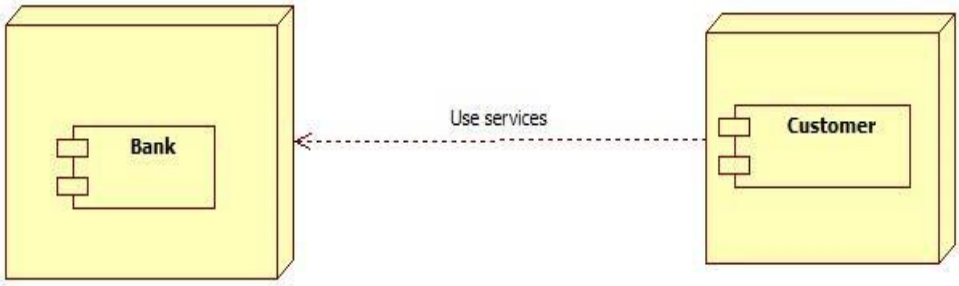
DEPLOYMENT DIAGRAM

- ✓ A Deployment diagram shows the configuration of run-time processing nodes and the components that are present in them.
- ✓ Component The Deployment diagram describes the run-time architecture of processors, devices and the software components. It describes the physical topology of the system and its structure. It specifies which component and logical elements (class, object and collaborations) are executed in the node (system).
- ✓ and Deployment diagrams are called as Physical Diagrams

Deployment Diagram

EXAMPLE

DEPLOYEMENT DIAGRAM FOR BANKING SYSTEM



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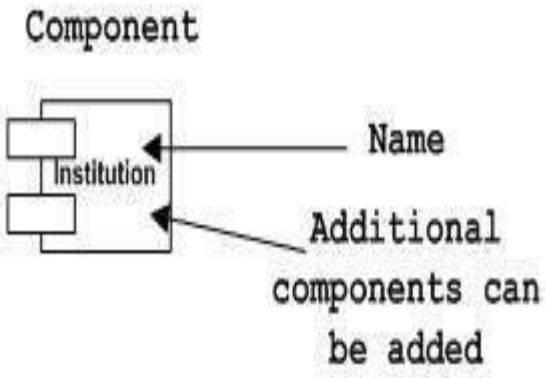
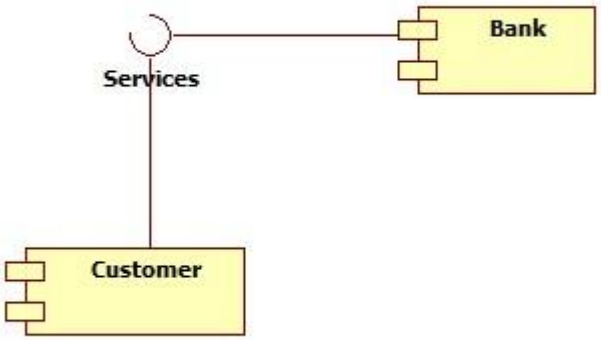
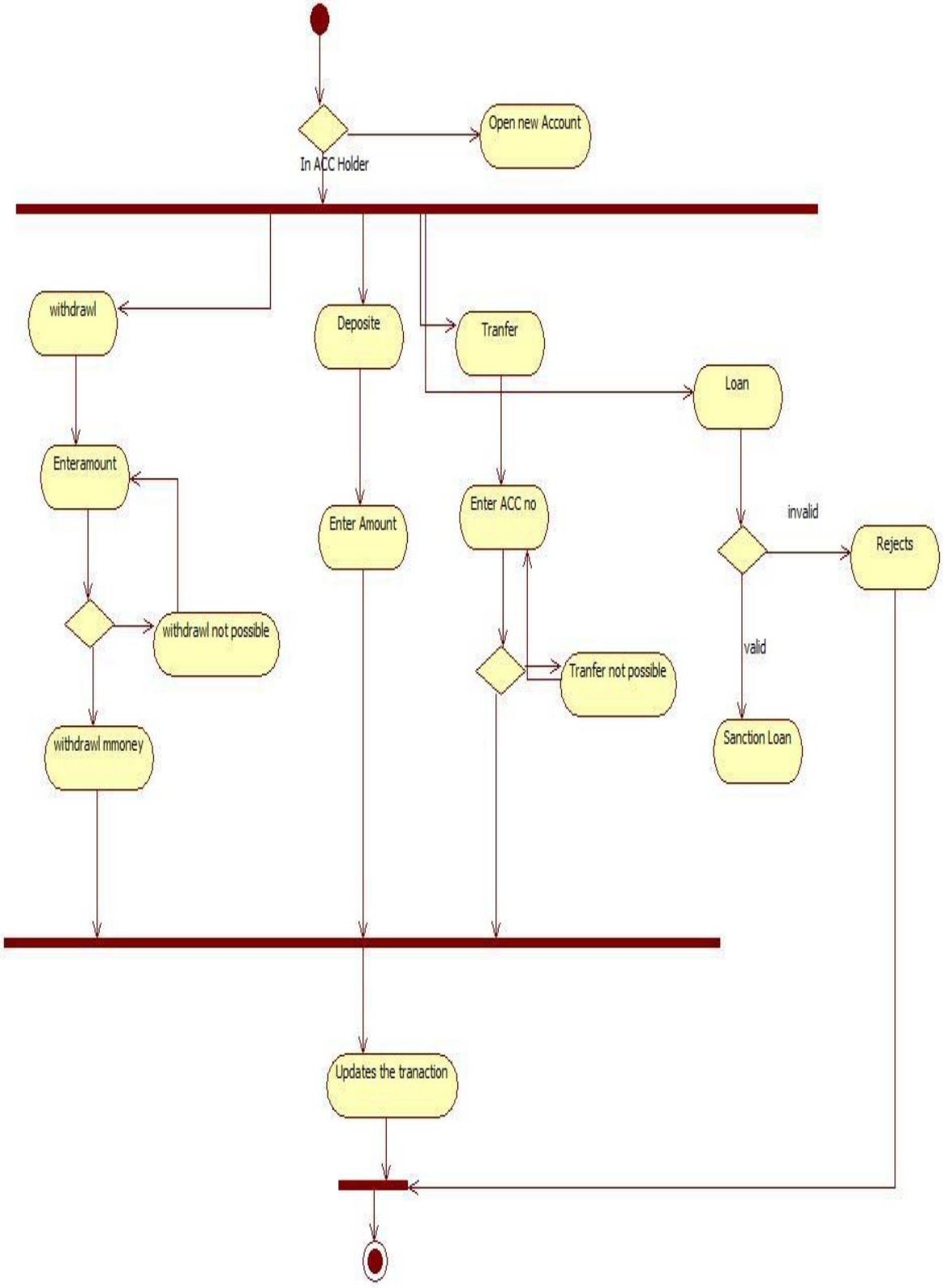


EXAMPLE

COMPONENT DIAGRAM FOR BANKING SYSTEM



8. DRAW ACTIVITY DIAGRAM FOR BANKING SYSTEM?


Open new Account
In ACC Holder
withdrawl
Deposite
Tranfer
Loan
Enteramount
Enter Amount
Enter ACC no
invalid
Rejects
withdrawl not possible
Tranfer not possible
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