

→ Difference between static Model and dynamic Model.

Solⁿ

Static Mode (or Structural View)

→ The view emphasizes the static structure of system using objects, attributes, operations and relationships.

Eg. Class diagram.

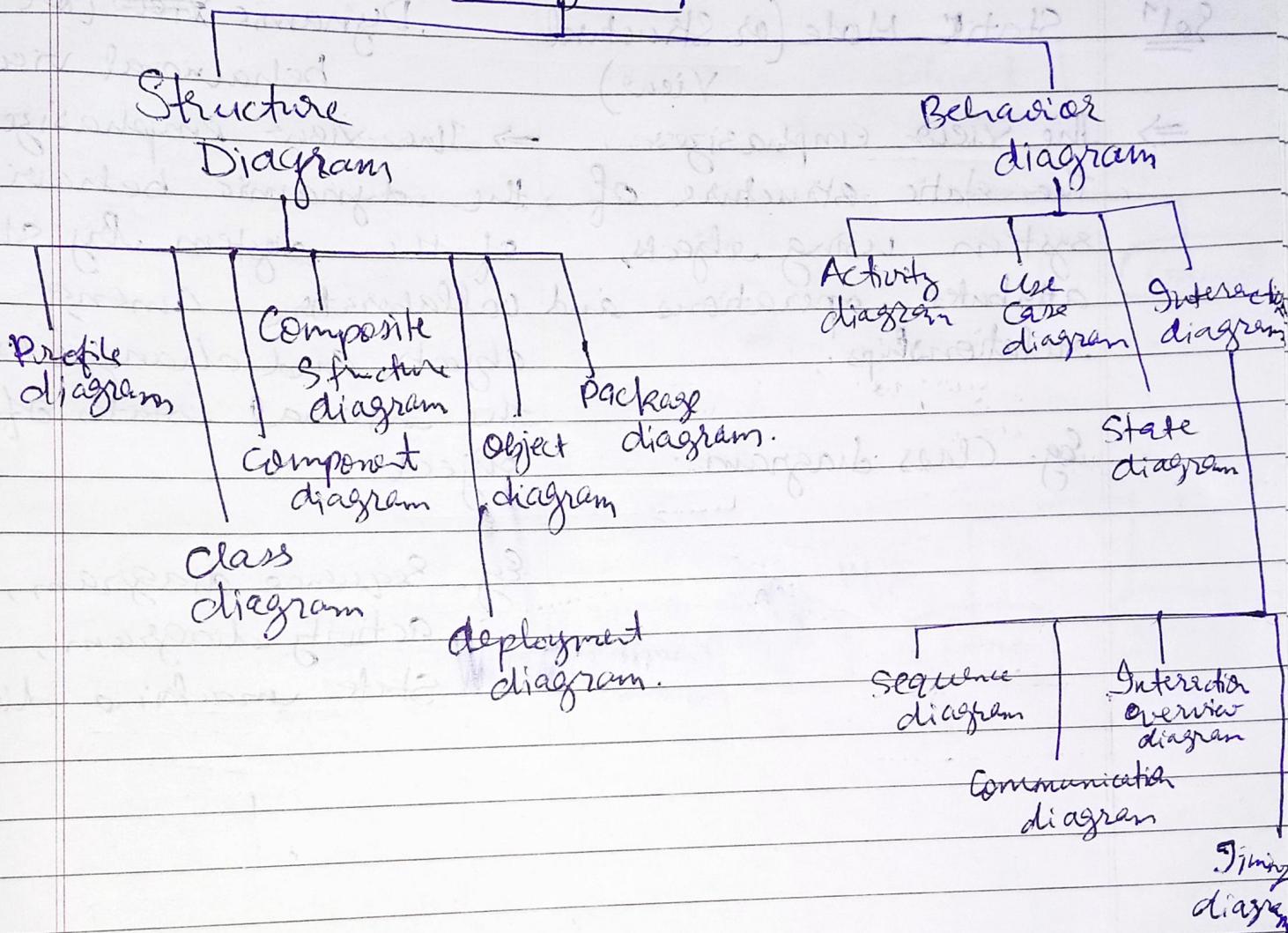
Dynamic View (or behavioral view)

→ The view emphasizes the dynamic behavior of the system. By showing collaboration among objects and changes to the internal states of object.

Eg. Sequence diagram,
activity diagram,
State machine diagram

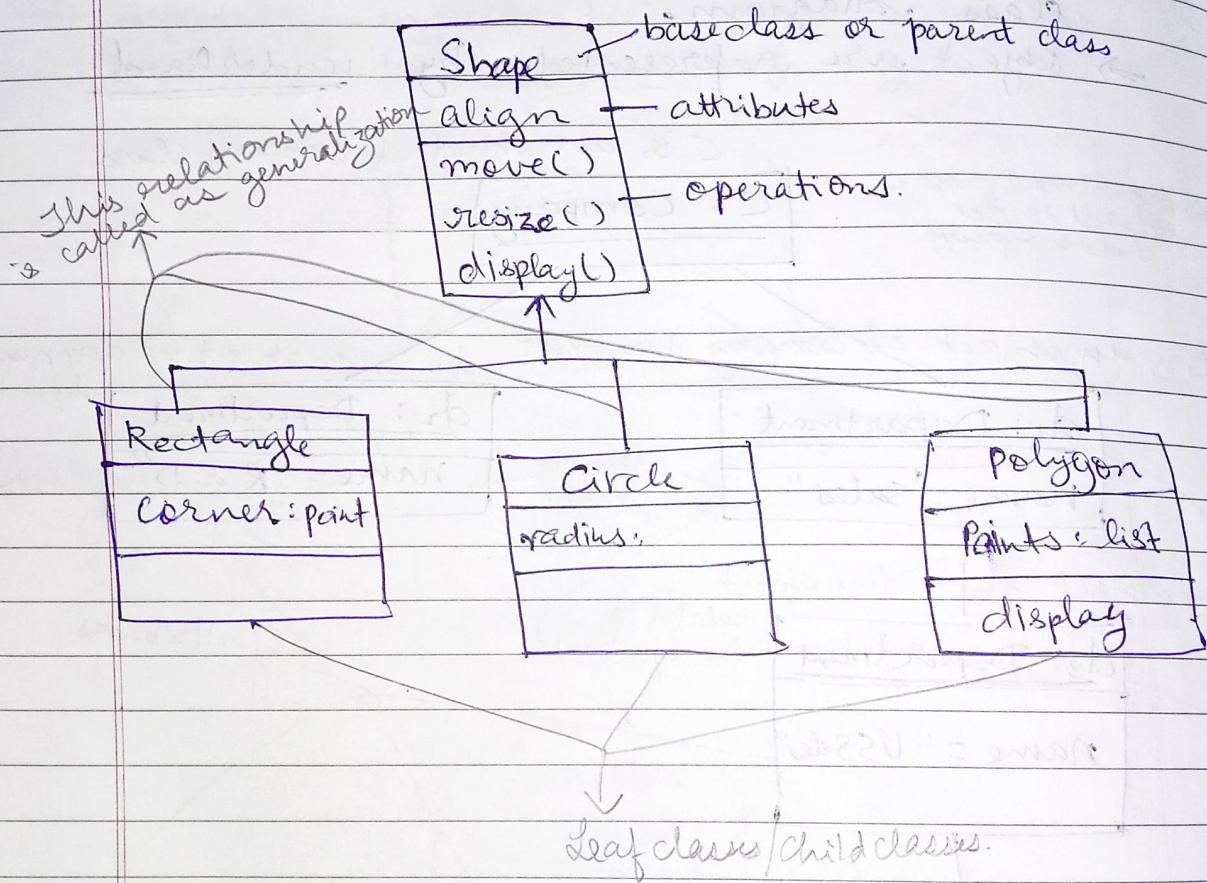
UML diagrams Overview

Diagram



Class Diagram

- It shows set of classes, interfaces and collaborations and their relationship.
- It is the most common diagram found in Modelling object oriented systems.
- address the static design view of a system.



⇒ Child classes inherited by parent class that is we represent them as generalization symbol

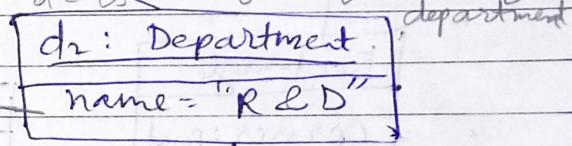
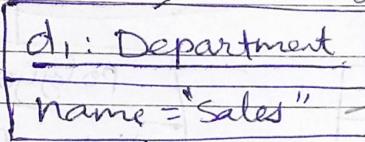
Object Diagram

- ⇒ Object diagram shows a set of objects and their relationships.
- ⇒ Object diagram represent static snapshots of instances of the things found in class diagram.
- ⇒ Object are represented by underlined.

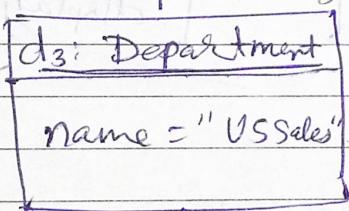
C is an object of company class



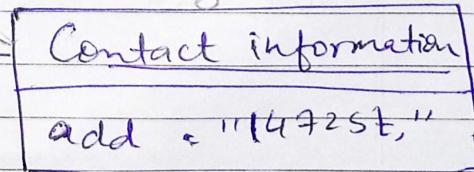
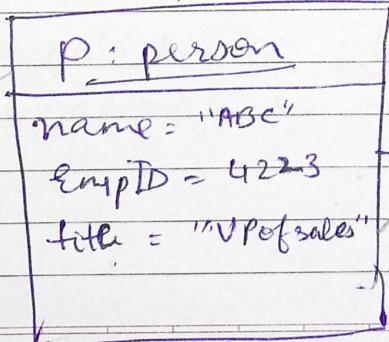
d₁ is an object of company department



department d₃ is the object

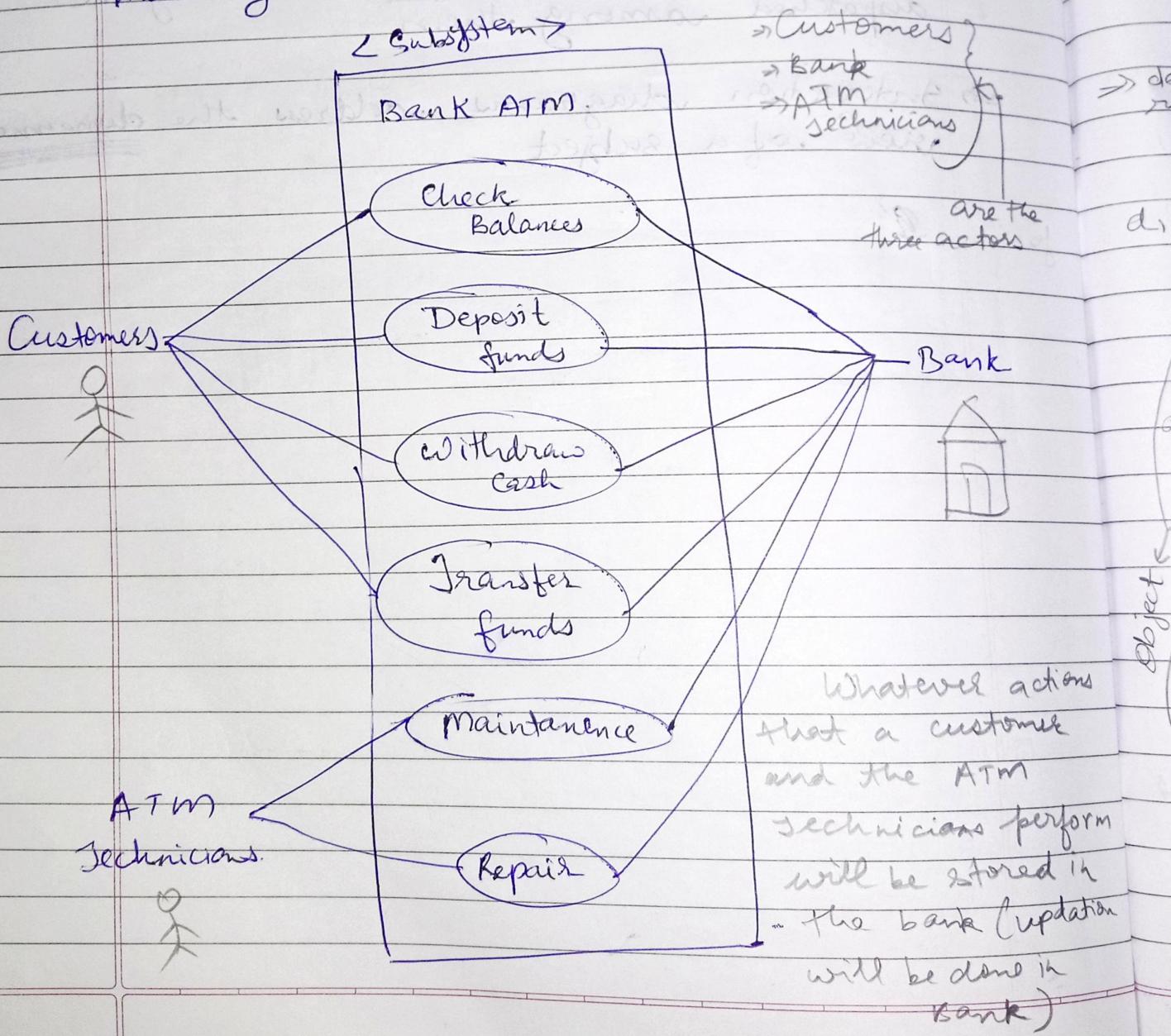


person is class related to the class department



Use Case diagram

- ⇒ A use case diagram shows a set of use cases and actors (special kind of class) and their relationships.
- ⇒ Address the static use case view of a system
- ⇒ especially important in organizing and modelling the behaviour of system



Short

Interaction diagrams

Sequence diagram

Collaboration diagram

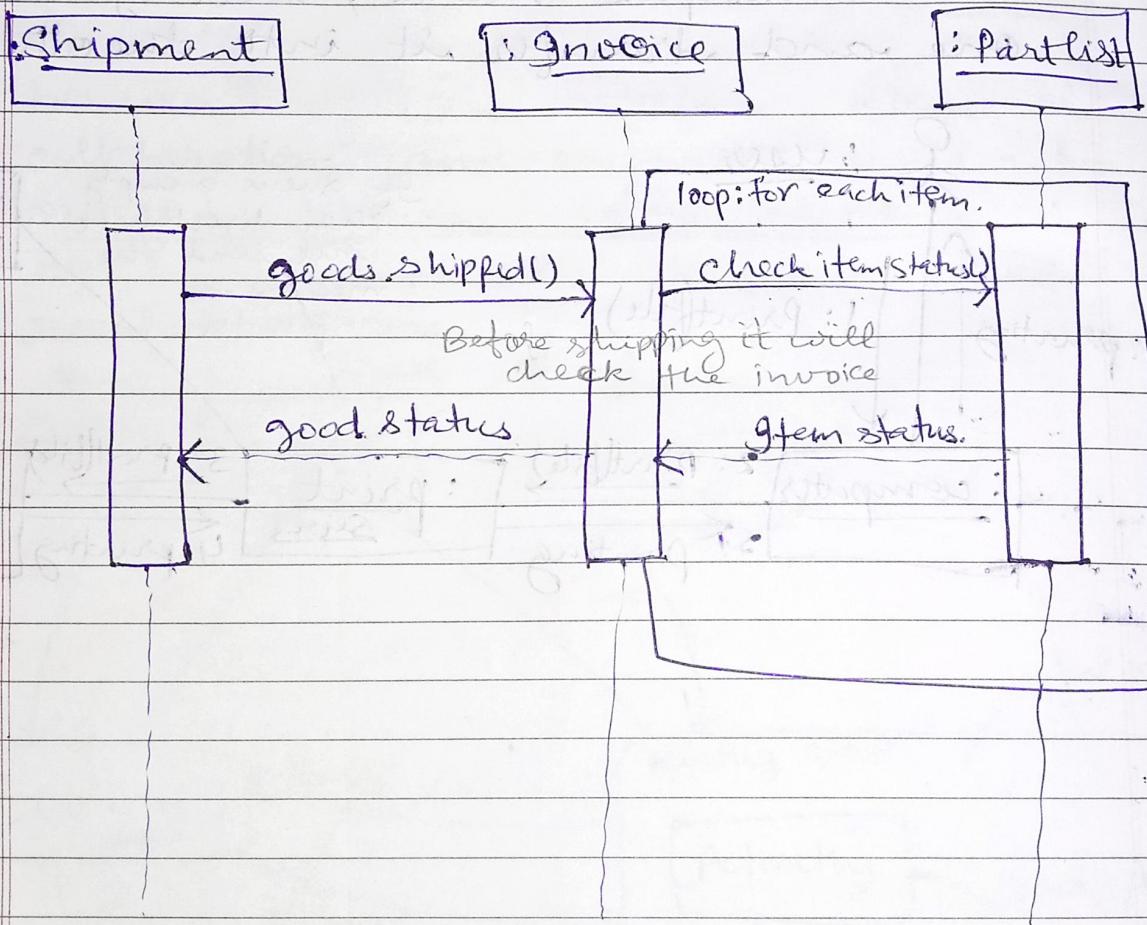
⇒ Interaction shows an Arc, consisting of a set of objects and their relationships, including the messages that may be dispatched among them.

⇒ Interaction diagrams address the dynamic view of a subject.

Sequence Diagram

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

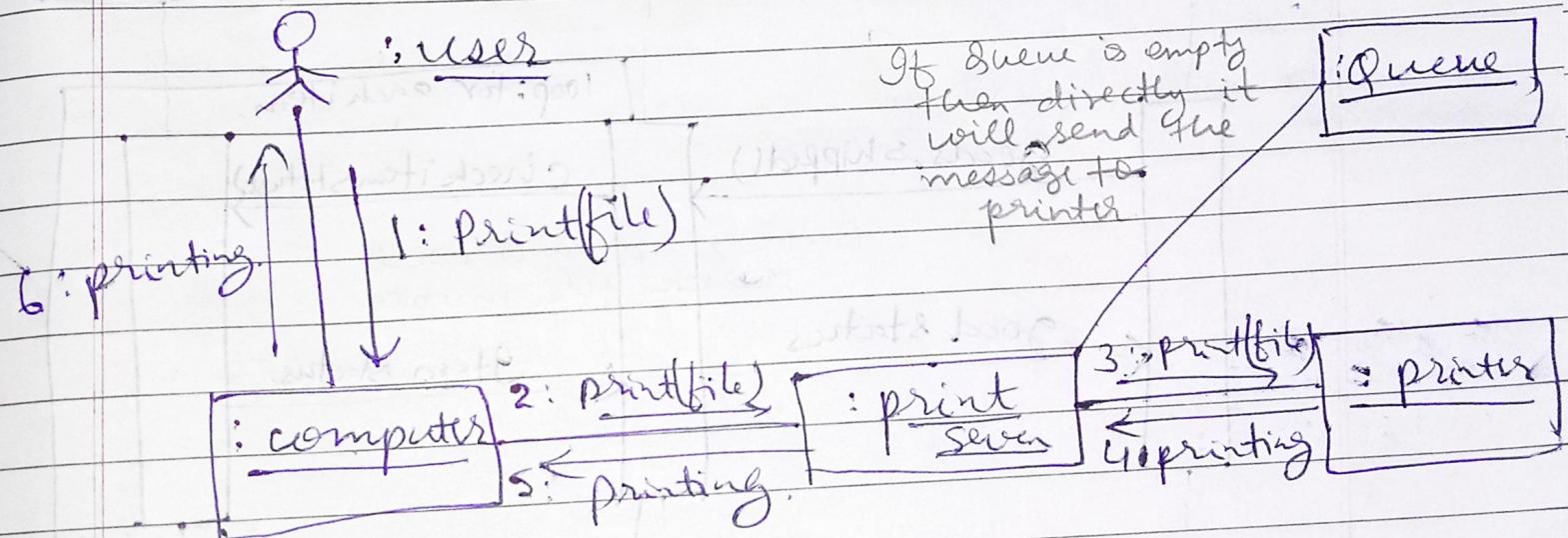
A message will be passed in a sequence from one stage to another.



Collaboration Diagram

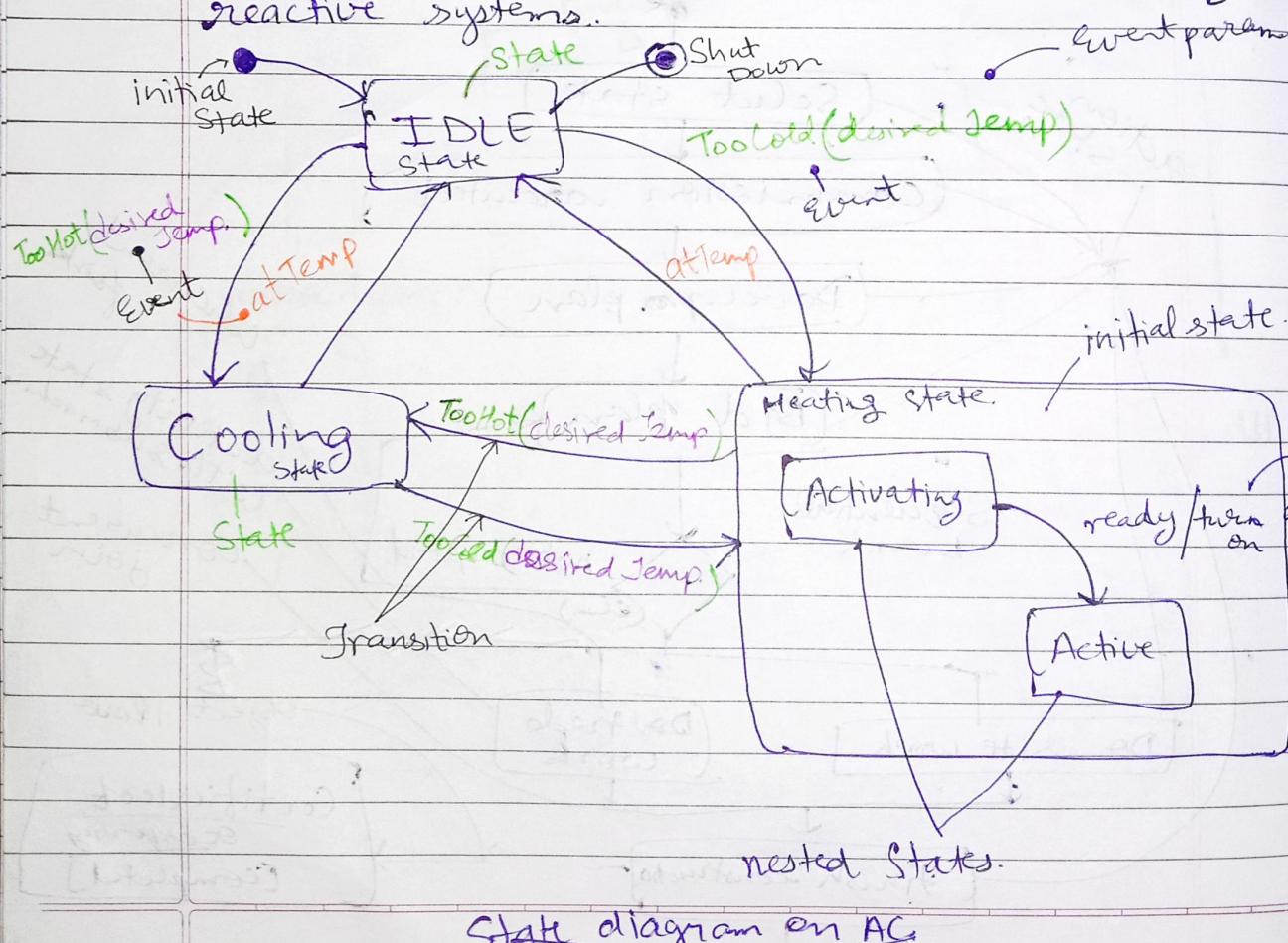
⇒ It is an Interaction diagram that emphasizes the structural organization of the objects that send and receive messages

Note: Sequence and Collaboration diagrams are isomorphic means, that you can take one and transfer it into the other.



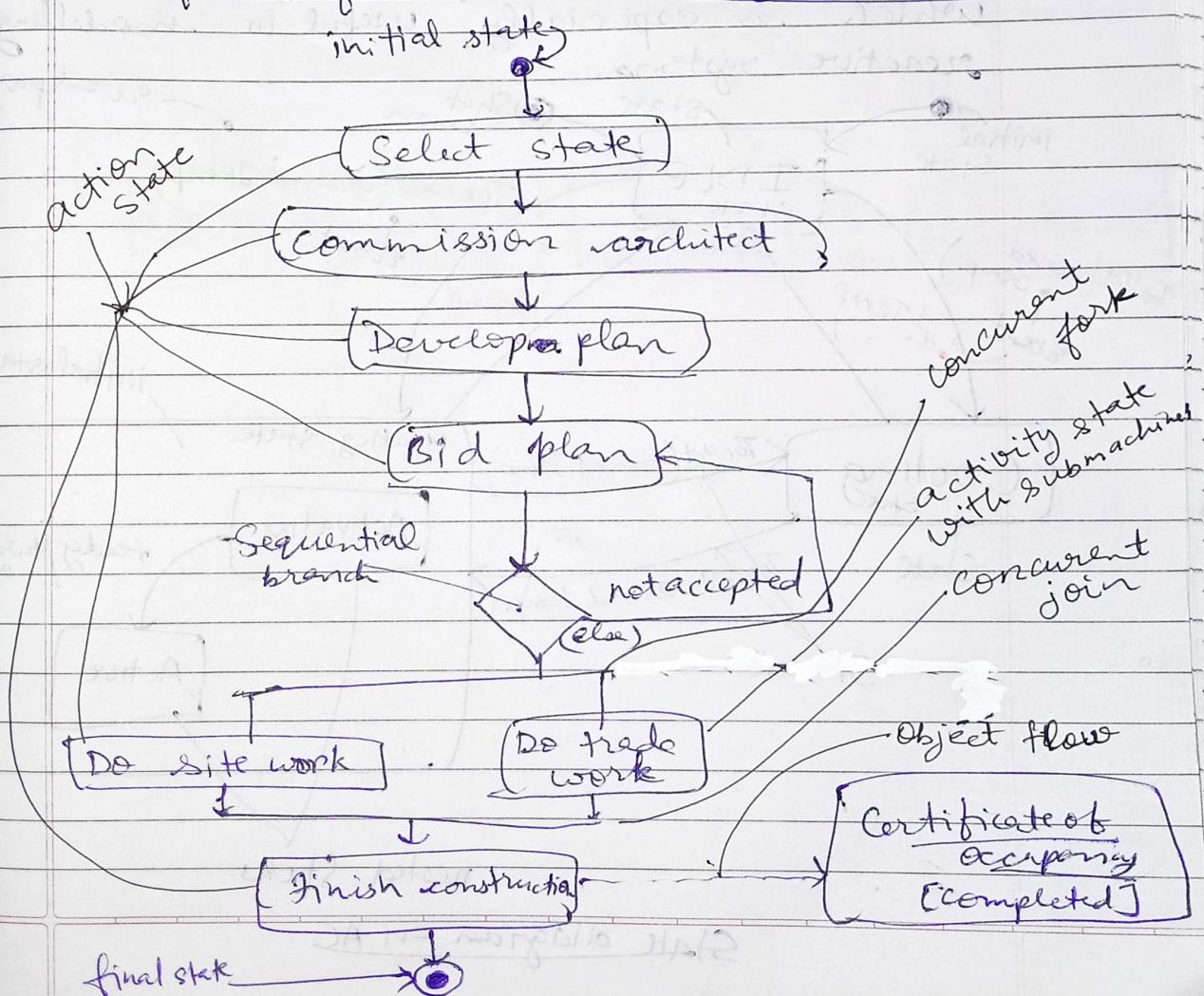
State chart diagram

- ⇒ State chart diagram shows a state machine consisting of states, transitions, events and activities.
- ⇒ It address the dynamic view of a system.
- ⇒ Especially important in modelling the behavior of an interface, class or collaboration and emphasize the event-ordered behavior of an object, which is especially useful in modelling reactive systems.



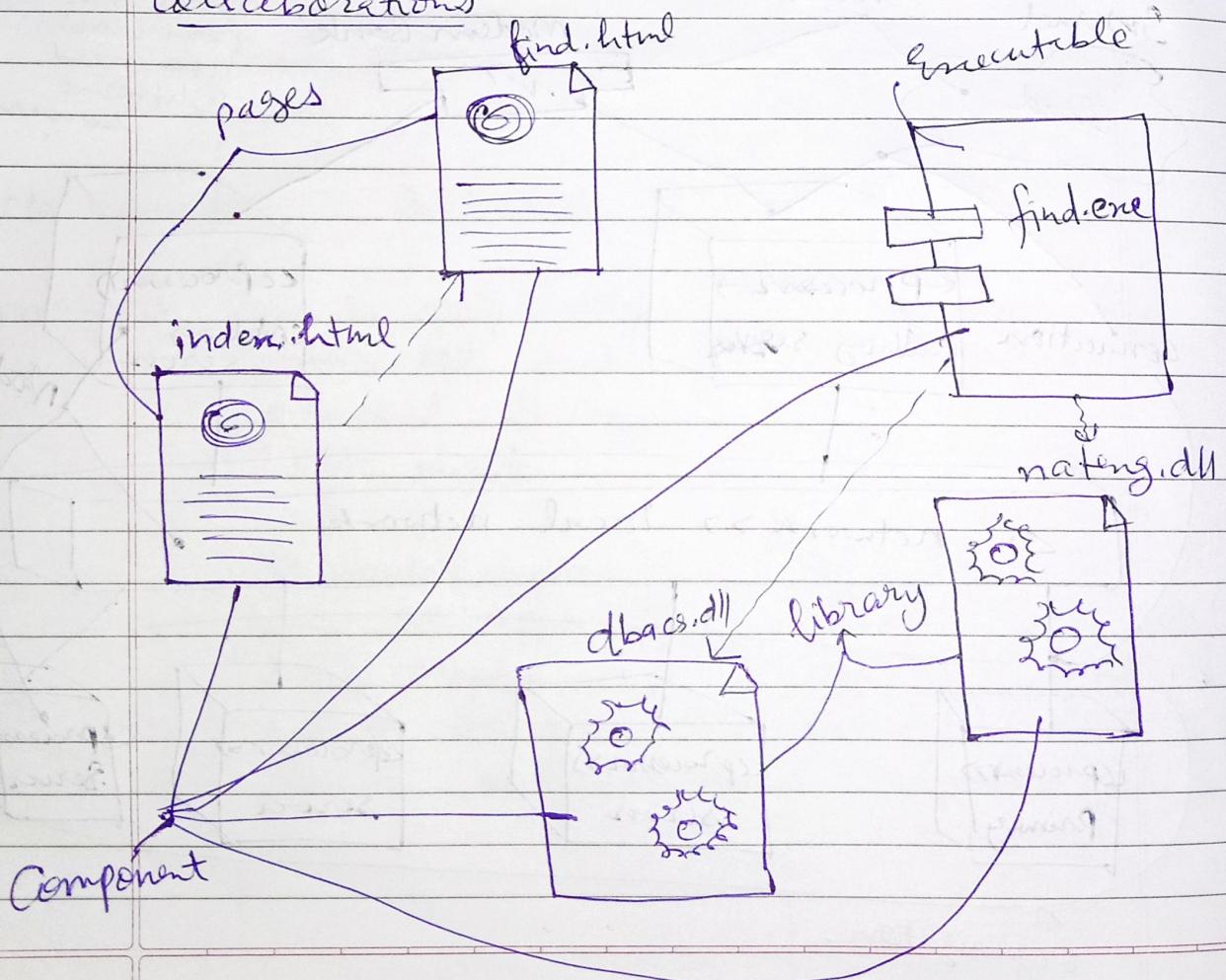
Activity Diagram

- ⇒ It is a special kind of a state chart diagram that shows the flow from activity to activity within a system.
- ⇒ Activity diagram address the dynamic view of system.
- ⇒ They are especially important in modelling the function of a system and emphasize the flow of control among objects.



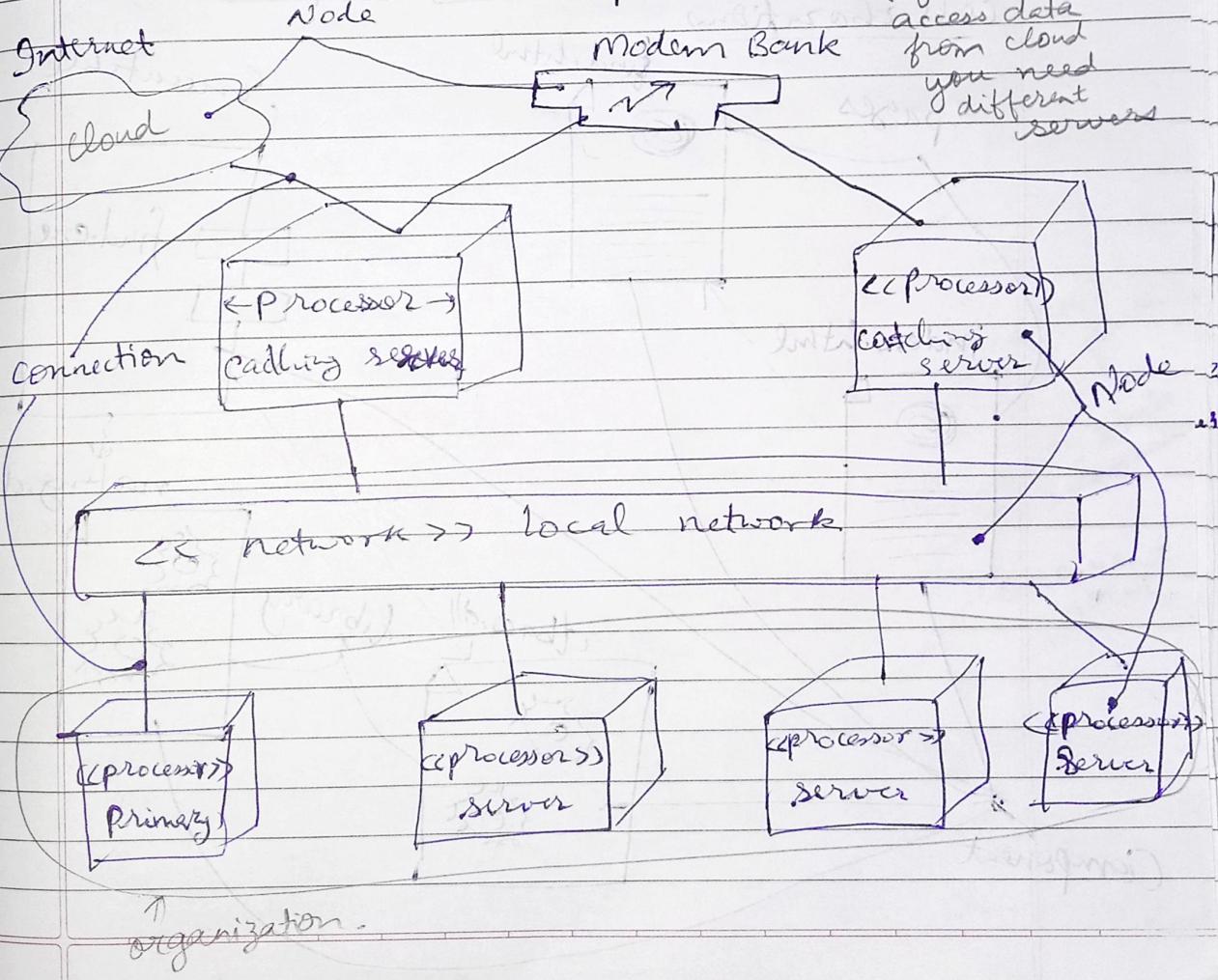
Component Diagram

- ⇒ Component diagram shows the organization and dependencies among a set of components.
- ⇒ Component diagram address the static implementation view of a system.
- ⇒ They are related to class diagram in that a component typically maps to one or more class, interfaces or collaborations.



Deployment Diagram

- A deployment diagram shows the configuration of run-time processing nodes and the components that live on them.
- Deployment diagram address the static deployment view of an architecture.
- They are related to component diagram in that a node typically encloses one or more components.



→ Comparison between UML and ERD

	UML	ERD
full form:	Unified Modelling Language	Entity Relationship Diagram
Definition:	It is a <u>standardized</u> modeling language for OOS	structural analysis and conceptual modelling They often used for graphical representations of database
Key terms	Class, object, association and attributes.	Entity, instance of entity, relationship and attributes.
Role information	Included	Not Included
Comments	Can be graphically represented and attached to any UML object	NO comments in ER diagrams.
Goals	To model system by using OO approach and creates a method to suite both human and machine	Ensures that information does not duplicate or redundant.