

Q1 what is an object?

Solⁿ

Objects are model elements that represent instances of a class or of classes.

Q2 What is the main advantage of object - oriented development?

Solⁿ

- Easier Maintenance.
- Objects may be understood as stand-alone entities.
- Objects are appropriate reusable components.
- For some systems, there may be an obvious mapping from real world entities to system objects.

Q3 What is Object Oriented System development methodology?

Solⁿ

It is a system development approach encouraging and facilitating re-use of software components.

Q.4 Difference between method and message in Object P.

Sol) A message is a name for a responsibility which an object may have.

A method is a named, concrete piece of code that encodes one way a responsibility may be fulfilled.

Q.5 What is Analysis and Design?

Sol) Analysis emphasizes an investigation of the problem and requirements rather than a solution.

~~For example, if a new decentralized library information system is desired~~

Design emphasizes a conceptual solution that fulfills the requirements, rather than its implementation.

Q-6 What is Object-Oriented Analysis and Design?

Solⁿ Object-Oriented Analysis and Design (OOAD) is a technical approach for analyzing and designing an application, system, or business by applying object-oriented programming, as well as using visual modelling throughout the software development process to guide stakeholder communication and product quality.

Q-7 What is UML?

Solⁿ Unified Modelling Language(UML) is a general-purpose, developmental, modelling language in the field of software engineering that is intended to provide a standard way to visualize the design of a system.

Q.8 What are the primary goals in the design of UML?

- Sol" The primary goals in the design of UML are:
- (1) Provide users with a ready-to-use, expressive visual modelling language so they can develop and exchange meaningful models.
 - (2) Provide extensibility and specialization mechanisms to extend the core concepts.
 - (3) Provide a formal basis for understanding the modelling language.
 - (4) Encourage the growth of the OO tools market.
 - (5) Integrate best practices.

Q.9 Define Class diagram.

Sol" A Class diagram is an illustration of the relationships and source code dependencies among classes in the UML (Unified Modelling Language).

Q10 Define Activity diagram

Soln An activity diagram is a behavioral diagram i.e. it depicts the behavior of a system

It visually presents a series of actions or flow of control in a system similar to a flowchart or a data flow diagram

Q11 What is Interaction diagram? Mention the types of Interaction diagram

Soln They are models that describe how a group of objects collaborate in some behavior - typically a single use-case.

Q12 Types of interaction diagram

(1) Communication diagram

(2) Sequence diagram

(3) Timing diagram

(4) Interaction overview diagram

Q12 What is Sequence Diagram?

Solⁿ It depicts interaction between objects in a sequential order. i.e., the order in which these interactions takes place.

Q13 What is Collaboration Diagram?

Solⁿ It is also known as communication diagram.
It is an illustration of the relationships and interactions among software objects in the UML.

These diagrams can be used to portray the dynamic behavior of a particular use case and define the role of each object.

Q14 Define statechart diagram.

Solⁿ Statechart diagrams are useful to model the reactive systems.

Q.15 What is meant by implementation diagrams?

Solⁿ

Implementation diagrams are used to describe implementation information. They describe the composition and layout of hardware, software system division, and functional realization from the system level.

→ Physical structure like how that system will work.

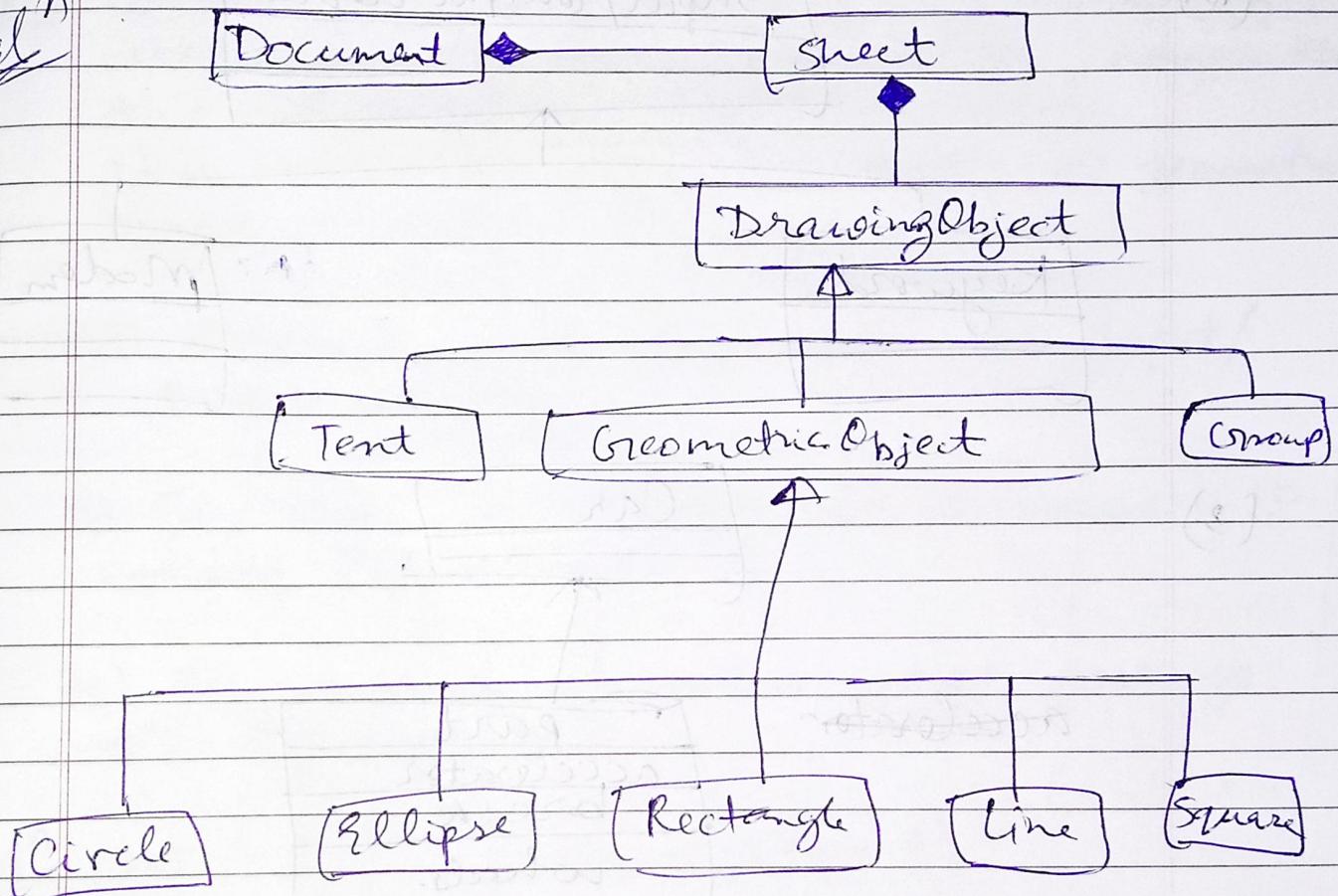
You can also say it as a topology.

Q16

Prepare a class diagram for a graphical document editor that supports grouping.

Assume that a document consists of several sheets. Each sheet contains drawing objects - including text, geometrical objects and groups. A group is simply a set of drawing objects, possibly including other groups. A group must also contain at least two drawing objects. A drawing object can be a direct member of at most one group. Geometrical objects include circles, ellipses, rectangles, lines and squares.

~~solⁿ~~

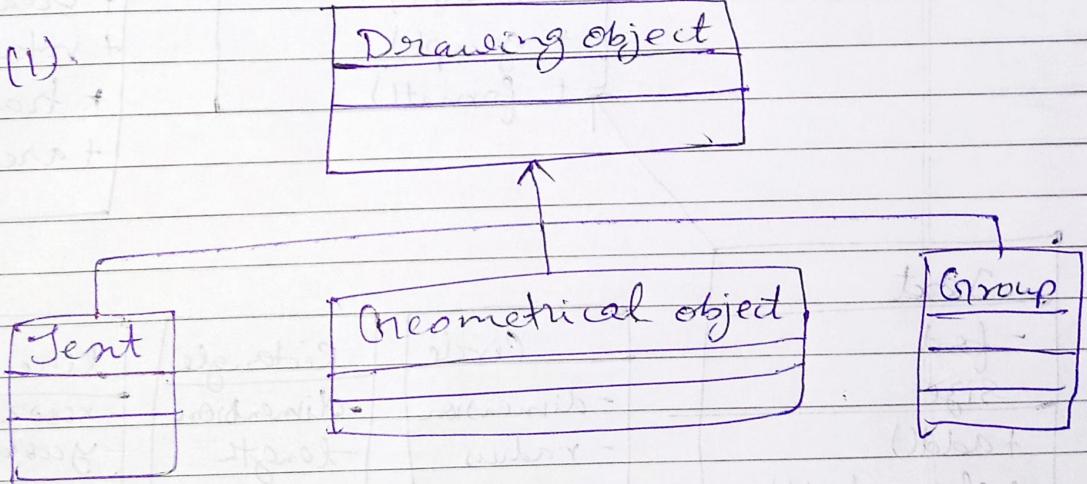


Q17 Categorize the following relationship into generalization, aggregation, composition and association.

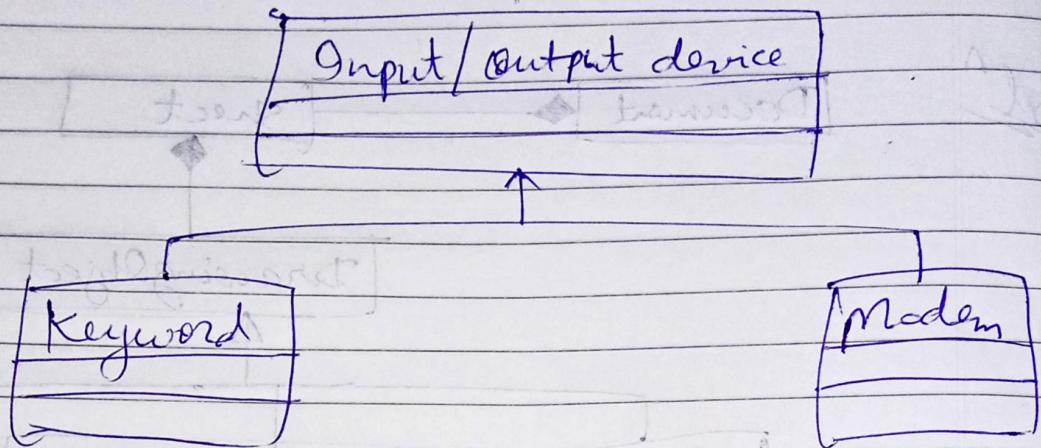
- 1) A drawing object is text, a geometrical object or group.
- (2) Modems and Keyboards are input/output devices.
- (3) Car has accelerator, break and wheels as parts.
- (4) An account is either type savings or type current.

Solⁿ

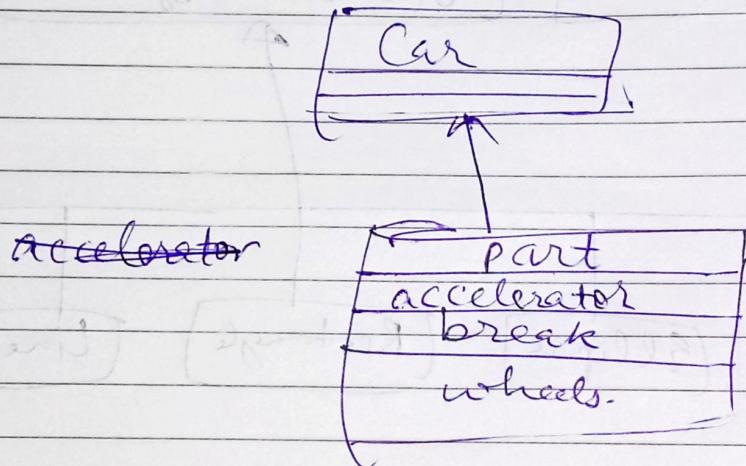
(1).



(2)



(3)



(4)

