Day26 – 22/08/2025

Q1. What do you know about design workflow?  
Ans. A design workflow is a structured process that outlines the steps and tasks involved in designing a product, service, or solution. It typically includes:

* Discovery: Research, analysis, and understanding of the problem or opportunity.
* Conceptualization: Idea generation, brainstorming, and exploration of design concepts.
* Design development: Refining and iterating on design solutions.
* Prototyping: Creating tangible or digital prototypes to test and validate design decisions.
* Testing and feedback: Gathering feedback from users, stakeholders, or peers to inform design iterations.
* Implementation: Finalizing design specifications and handing off to development or production teams.
* Evaluation and iteration: Monitoring the design's performance and making adjustments as needed.

Q2. What do you know Persistent objects?  
Ans. Persistent objects refer to data or objects that remain stored and accessible even after the application or program that created them has terminated. This allows data to be retained and reused across different sessions or instances of an application.

Q3. Which of the following components is not typically part of the Command pattern?

1. Invoker
2. Receiver
3. **Abstract Factory**
4. Command (interface/abstract class)

Q4. What role does the Invoker play in the Command pattern?

1. It knows how to perform the operations associated with a request.
2. It encapsulates the request as an object.
3. **It asks the command to carry out the request.**
4. It defines the interface for executing an operation.

Q5. A key benefit of using the Command pattern is its ability to support:

1. Lazy initialization
2. **Undo/Redo functionality**
3. Singleton instance creation
4. Compile-time polymorphism

Q6. In the Strategy pattern, what role does the "Context" play?

1. It defines the interface for the algorithms.
2. It implements a specific algorithm.
3. **It maintains a reference to a Strategy object and delegates the task to it.**
4. It creates the Concrete Strategy objects.

Q7. In which of the following mechanisms, types of all variables and expressions are fixed at compilation time.

1. Strong Typing
2. Weak Typing
3. **Static Binding/ early binding**
4. Dynamic Binding/ late binding

Q8. In which pattern does a class represent the functionality of another class, providing a simplified interface to a complex subsystem?

1. Decorator Pattern
2. **Facade Pattern**
3. Proxy Pattern
4. Composite Pattern

Q9. Which of the following statements about Persistence is correct?

1. It is the enforcement of the class of an object, such that objects of different types may not be interchanged, or at the most they may be interchanged only in very restricted ways.
2. **It is the property of an object through which its existence transcends time and/or space.**
3. It is the property that distinguishes an active object from one that is not active.
4. All of the mentioned

Q10. What is that concept in type theory in which a single name may denote objects of many different classes that are related by some common super class referred to \_\_\_\_\_\_

1. Monomorphism
2. Type Checking
3. **Polymorphism**
4. Generalization

Q11. Which of the following patterns is used to create a single instance of a class and provide a global point of access to it?

1. Factory Pattern
2. **Singleton Pattern**
3. Builder Pattern
4. Prototype Pattern

Q12. The Adapter pattern is a type of \_\_\_\_\_\_ pattern.

1. Creational
2. **Structural**
3. Behavioral
4. Concurrency

Q13. Which design pattern defines a one-to-many dependency between objects so that when one object changes state, all its dependents are notified and updated automatically?

1. Strategy Pattern
2. Command Pattern
3. **Observer Pattern**
4. Mediator Pattern

Q14. The Model-View-Controller (MVC) is an example of a \_\_\_\_\_\_ pattern.

1. Creational
2. Structural
3. Behavioral
4. **Architectural**