# Design Pattern Quiz Answers

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# 1. What is a design pattern in software development?

B) A general reusable solution to a commonly occurring problem

# 2. How many types of design patterns are there?

A) 3

# 3. What is the main benefit of using a design pattern?

D) All of the Above

# 4. Which of the following is NOT a creational design pattern?

C) Bridge Pattern

# 5. Which of the following is a behavioral design pattern?

A) Observer Pattern

# 6. What is a Singleton design pattern?

A) A design that allows you to ensure that a class has only one instance

# 7. Which of the following best describes the Factory Pattern in design patterns?

D) It allows an object to be created without exposing the creation logic to the client and the created object is referred to using a common interface.

# 8. What is the use of the Builder Pattern?

A) It simplifies the creation of complex objects by breaking the creation process into steps

# 9. What is the primary purpose of the Abstract Factory design pattern in software design?

A) It provides an interface for creating families of related or dependent objects without specifying their concrete classes

# 10. What is the primary purpose of the Prototype Pattern in design patterns?

B) To create a clone of an existing object rather than creating a new one, typically for performance reasons.

# 11. What is the primary function of the Adapter design pattern in software development?

A) It allows classes with incompatible interfaces to work together by wrapping its own interface around that of an already existing class.

# 12. Which pattern helps in reducing complex conditional logic?

A) Strategy pattern

# 13. The Decorator design pattern is also known as:

A) Wrapper

# 14. Which structural pattern should be used when you want to add responsibilities to an object dynamically?

1. Decorator

# 15. Which of the following best describes the Composite design pattern?

A) The Composite pattern composes objects into tree structures to represent part-whole hierarchies.

# 16. Which design pattern provides a way to access the elements of an aggregate object sequentially without exposing its underlying representation?

C) Iterator pattern

# 17. Which pattern is specifically concerned with communication between objects?

A) Mediator

# 18. In which pattern does a surrogate or placeholder class control access to the original object?

B) Proxy

# 19. Which structural design pattern decouples an abstraction from its implementation so that the two can vary independently?

B) Bridge

# 20. Which pattern allows an object to change its behavior when its internal state changes?

A) State

# 21. Which behavioral design pattern should be used when a behavior among objects should be encapsulated and made to operate on an object structure?

A) Visitor

# 22. Which behavioral design pattern defines a family of algorithms, encapsulates each one, and makes them interchangeable?

A) Strategy

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

A) Observer

# 24. Which design pattern would you use to encapsulate a request as an object?

B) Command Pattern

# 25. What is Template Design Pattern?

A) It defines the skeleton of an algorithm in a method, deferring some steps to subclasses.