Multiple Choice

Question 1: a. A design pattern used in software development

Identification

Question 1: The Prototype Design Pattern is a creational design pattern that allows objects to be created by cloning an existing object.

Question 2: It is used to create new objects by copying existing objects, reducing the need for complex object creation logic.

Question 3: It simplifies object creation, improves performance, and allows for dynamic object creation.

Question 4: It can increase memory usage and may require implementing a deep copy mechanism.

Question 5: It is useful when creating objects is expensive or complex, and when objects need to be created dynamically at runtime.

Question 6: The Prototype serves as the base object that is cloned to create new objects.

Question 7: The Concrete Prototype is a specific implementation of the Prototype that is cloned to create new objects.

Question 8: The Client is responsible for creating new objects by cloning the Prototype.

Question 9: The Subclass Prototype is used to create objects that inherit from the Prototype and provide specialized behavior.

True or False

Question 1: True

Question 2: True

Question 3: True

Question 4: True

Question 5: True

Question 6: True

Question 7: True

Question 8: True

Question 9: True

Question 10: True

Fill in the Blanks

Question 1: The Prototype Design Pattern is a creational design pattern that allows us to make new objects by copying existing objects, known as prototype.

Question 2: The Prototype Design Pattern is used in software development to improve performance and reduce resource usage by reusing objects for creating new ones.

Question 3: The benefits of using the Prototype Design Pattern include efficient object creation, reducing subclassing, and configuring objects with different properties.

Question 4: There are no drawbacks mentioned for using the Prototype Design Pattern.

Question 5: The Prototype Design Pattern is useful in situations where object creation is resource-intensive or complex.

Question 6: The Prototype is the interface or abstract class that declares the methods for cloning itself.

Question 7: The Concrete Prototype is the concrete class that implements the Prototype interface or extends the Prototype abstract class.

Question 8: The Client is responsible for creating new objects by requesting the prototype to clone itself.

Question 9: The Subclass Prototype is used to highlight that if the concrete prototype is extended, it is preferable to override the clone method.

Question 10: The Prototype Design Pattern works by creating new objects by copying existing objects, known as prototypes, using the clone method provided by the prototype.