Which of the below is not a valid design pattern?

a) Singleton

b) Factory

c) Command

d) Java

Answer: d

Explanation: Design pattern is a general repeatable solution to a commonly occurring problem in software design. There are various patterns available for use in day to day coding problems.

Which of the below author is not a part of GOF (Gang of Four)?

a) Erich Gamma

b) Gang Pattern

c) Richard Helm

d) Ralph Johnson

Answer: b

Explanation: Four authors named Richard Helm, Erich Gamma, Ralph Johnson and John Vlissides published a book on design patterns. This book initiated the concept of Design Pattern in Software development. They are known as Gang of Four (GOF).

Which of the below is not a valid classification of design pattern?

a) Creational patterns

b) Structural patterns

c) Behavioral patterns

d) Java patterns

Answer: d

Explanation: Java patterns is not a valid classification of design patterns. The correct one is J2EE patterns.

Which design pattern ensures that only one object of particular class gets created?

a) Singleton pattern

b) Filter pattern

c) State pattern

d) Bridge pattern

Answer: a

Explanation: Singleton pattern involves a single class which is responsible to create an object while making sure that only one object gets created. This class provides a way to access the only object which can be accessed directly without need to instantiate another object of the same class.

Which design pattern represents a way to access all the objects in a collection?

a) Iterator pattern

b) Facade pattern

c) Builder pattern

d) Bridge pattern

Answer: a

Explanation: Iterator pattern represents a way to access the elements of a collection object in sequential manner without the need to know its underlying representation.

What does MVC pattern stands for?

a) Mock View Control

b) Model view Controller

c) Mock View Class

d) Model View Class

Answer: b

Explanation: Model represents an object or JAVA POJO carrying data.View represents the visualization of the data that model contains. The controller acts on both model and view. It is usually used in web development.

Is design pattern a logical concept.

a) True

b) False

Answer: a

Explanation: Design pattern is a logical concept. Various classes and frameworks are provided to enable users to implement these design patterns.

Which among these are the iteration control facilities?

a) Initialize

b) Information Hiding

c) Multiple iterations

d) All of the mentioned

Answer: a

Explanation: Iteration control facilities includes initialize, Access Control, Advance current element, Completion test.

Which of these are necessary requirements for Iteration mechanism?

a) Initialize

b) Completion Test

c) Information Hiding

d) Access Current

Answer: c

Explanation: Iteration mechanism necessary requirements includes information hiding and multiple simultaneous iteration.

Which of these prepare iteration mechanism for next traversal?

a) initialize

b) Information Hiding

c) Advance current Test

d) Flexibility

Answer: a

Explanation: Initialize prepares the iteration mechanism for next traversal.

Which of the possibilities for where an iteration mechanism resides?

a) Programming Language

b) Collection

c) Iterator

d) All of the mentioned

Answer: d

Explanation: There are three possibilities for iteration mechanism are programming language, Collection, Iterator.

Interface control mechanism can work in which of these ways?

a) Internal

b) External

c) Peripheral

d) Internal & External

Answer: d

Explanation: Interface control mechanism works internal as well a external.

An iteration mechanism which provides collection element as directed by the client?

a) Internal

b) External

c) Collection

d) None of the mentioned

Answer: a

Explanation: An internal iteration mechanism provides with collection element directed by the client.

Which of the following is true about built-in internal iteration control mechanism?

a) The client must process for each collection iteration and give it to the iteration mechanism

b) The iteration mechanism then traverses the collection applies the processing package

c) Lack of flexibility is the biggest drawback

d) All of the mentioned

Answer: d

Explanation: All of the mentioned statements are true with respect to the internal iteration control mechanism.

Design patterns does not follow the concept of software reuse.

a) True

b) False

Answer: b

Explanation: Design patterns allow the designer to create the system architecture by integrating reusable components.

The use of design patterns for the development of object-oriented software has important implications for

a) Component-based software engineering

b) Reusability in general

c) All of the mentioned

d) None of the mentioned

Answer: c

Which of the following is a design pattern?

a) Behavioral

b) Structural

c) Abstract Factory

d) All of the mentioned

Answer: d

Explanation: All the options are design patterns so option d.

Design pattern is a solution to a problem that occurs repeatedly in a variety of contexts.

a) True

b) False

Answer: a

Explanation: Each design pattern has a name and use of each pattern has consequences.

Which pattern prevents one from creating more than one instance of a variable?

a) Factory Method

b) Singleton

c) Observer

d) None of the mentioned

Answer: b

Explanation: In singleton pattern, the class itself is made responsible for keeping track of its instance.Thus it ensures that no more than one instance is created.

Which design pattern defines one-to-many dependency among objects?

a) Singleton pattern

b) Facade Pattern

c) Observer pattern

d) Factory method pattern

Answer: c

Explanation: Observer pattern defines one-to-many dependency among objects so that when one object changes its state, all its dependents are notified.

In factory method pattern, the framework must instantiate classes but it only knows about the abstract classes, which it cannot initiate. How would one solve this problem?

a) encapsulating the knowledge of which document subclass to is to be created and

b) moving this knowledge out of the framework

c) instantiating the application specific documents without knowing their class

d) all of the mentioned

Answer: d

Explanation: Following all the options in order will solve the factory method problem.

Which of the following describes the Proxy pattern correctly?

A - In this pattern a class represents functionality of another class.

B - This pattern creates a chain of receiver objects for a request.

C - This pattern provides a way to evaluate language grammar or expression.

D - In this pattern a request is wrapped under an object as command and passed to invoker object.

Answer : A

Explanation

In proxy pattern, a class represents functionality of another class. This type of design pattern comes under structural pattern. In proxy pattern, we create object having original object to interface its functionality to outer world.

Which of the following is true for Adapter pattern?

a) An adapter or wrapper is a component that provides a new interface for an existing component

b) An Adapter or Wrapper pattern is a broker pattern that provides a new interface for existing software so that it can be reused

c) Adaptation for reuse is an old technique that has been used since the beginning of software development

d) All of the mentioned

Answer: d

Explanation: All of the mentioned are true.

The Adapter patterns provide object-oriented adapters in which of theses varieties?

a) One uses inheritance

b) one uses delegation

c) All of the mentioned

d) None of the mentioned

Answer: c

Explanation: Adapter patterns includes all the mentioned varieties.

A class (the adapter class) may be given a new interface by an adapter class in which of the two ways?

a) The adapter may subclass the adapter. The adapter can inherit adapter operations with appropriate semantics and pragmatics, override those with inappropriate semantics or pragmatics, and add operations needed for the new interface. This is the Class Adapter pattern

b) The adapter may hold a reference to the adapter and delegate must work to the adapter object. This approach is the Object Adapter pattern

c) All of the mentioned

d) None of the mentioned

Answer: c

Explanation: All of the mentioned are the two ways.

A class (the adapter class) may be given a new interface by an adapter class in which of these ways?

a) Class Adapter pattern

b) Object Adapter pattern

c) All of the mentioned

d) None of the mentioned

Answer: c

Explanation: A class (the adapter class) may be given a new interface by an adapter class into two ways- Class Adapter pattern and Object Adapter pattern.

Which of these states about Object Adapter pattern?

a) The adapter can inherit adapter operations with appropriate semantics and pragmatics, override those with inappropriate semantics or pragmatics, and add operations needed for the new interface

b) The adapter may hold a reference to the adapter and delegate must work to the adapter object

c) All of the mentioned

d) None of the mentioned

Answer: b

Explanation: The adapter may hold a reference to the adapter and delegate must work to the adapter object is for object adapter pattern.

Which of the following is true for proxy pattern?

a) Has exactly the same interface as the real object

b) Handles routine or illegitimate messages without accessing the real object

c) Delegates messages that it cannot handle to the real object

d) All of the mentioned

Answer: d

Explanation: All of the mentioned is true.

Which of the following is not followed by proxy pattern?

a) virtual proxies

b) remote proxies

c) access proxies

d) none of the mentioned

Answer: d

Explanation: All are followed by proxy pattern.

What are stand-ins for objects not yet created are called?

a) virtual proxies

b) remote proxies

c) access proxies

d) none of the mentioned

Answer: a

Explanation: Stand-ins for objects not yet created are called virtual proxies.

Which of the following is incorrect with respect to the proxy pattern?

a) The Proxy pattern should be used whenever the services directly provided by some object need to be managed or mediated in some way without changing the object’s interface

b) Virtual proxies can be used to delay the creation or loading of large and time-consuming objects to preserve space and ensure rapid responses to requests

c) Remote proxies can hide the fact that an object is not locally present,handling the communication necessary to access the remote real object

d) None of the mentioned

Answer: d

Explanation: All of the mentioned are correct for proxy pattern.

Which of the following is consequence for proxy pattern?

a) The Proxy pattern makes it possible to defer expensive operations until they are necessary (virtual proxies)

b) Provides an elegant way to treat remote objects as if they were local (remote proxies)

c) Provides a mechanism for implementing supplier access restrictions (protection or access proxies)

d) All of the mentioned

Answer: d

Explanation: All of the mentioned are correct consequence for proxy pattern.

Most object-oriented languages and systems provide which of these ways to create new objects?

a) Instantiating a class using one of its constructors

b) Cloning an existing object

c) All of the mentioned

d) None of the mentioned

Answer: c

Explanation: All the mentioned are the two ways to create new objects.

Which of the following truly describes the structure of Generator pattern?

a) A generator pattern has a Client that needs an instance of a Product class

b) A Generator that creates or obtains access to such an instance on behalf of the Client

c) All of the mentioned

d) None of the mentioned

Answer: c

Explanation: All of the mentioned are part of generator pattern structure.

Which of the following is true about factory method?

a) A factory method is a non-constructor operation that creates and returns class instances

b) Factory methods are widely used in mid-level design patterns and in object-oriented programming in general

c) Factory methods create new instances using constructors or cloning, so they do not rely on any special technique for class instantiation

d) All of the mentioned

Answer: d

Explanation: All the mentioned are true with respect to factory methods.

When a generator assumes responsibility for product object creation in a factory method,which of the following capabilities become available?

a) Access to product constructors can be restricted

b) Private data can be provided to new product objects

c) Product objects can be configured after creation

d) All of the mentioned

Answer: d

Explanation: All the mentioned are true for product object creation.

Which are the several reasons for using generator patterns?

a) Product Creation Control

b) Product Configuration Control

c) Client and Product Decoupling

d) All of the mentioned

Answer: d

Explanation: The several reasons are all mentioned.

The Factory patterns decouple clients from products by taking advantage of interfaces in two ways?

a) The generator class with the factory methods cannot be changed, disallowing variability in factory method implementations

b) Instances of a variety of classes that implement the product interface can be returned by a factory method, allowing great flexibility in results

c) All of the mentioned

d) None of the mentioned

Answer: b

Explanation: Generator class with the factory method can be changed.

What are the types of factory pattern?

a) Factory Method

b) Abstract Method

c) All of the mentioned

d) None of the mentioned

Answer: c

Explanation: There are two types of factory pattern- Factory,Abstract.

Which class that can have only one instance?

a) Adaptor Class

b) Proxy Class

c) Singleton Class

d) Factory class

Answer: c

Explanation: Singleton Class is the class that can have only one instance.

What are the drawbacks for singleton class?

a) Many languages do not allow classes to be values assignable to variables.

b) Singleton classes can be subclassed, and the singleton factory method can return a sub-class instance

c) Classes can easily replace only single instances

d) All of the internship

Answer: d

Explanation: All are the drawbacks for the singleton class.

Which of the following are true for the singleton class?

a) Singleton classes should be used whenever it is important that only a single instance of a class exist and that that single instance be widely accessible

b) The Singleton pattern can also be used, with slight modifications, when a limited number of instances greater than one are desired

c) Access restrictions are usually easy to add by restricting the visibility of either the class or the factory method

d) All of the mentioned

Answer: d

Explanation: All the mentioned are true for the singleton class.

Which of the following describes the Proxy pattern correctly?

[A - In this pattern a class represents functionality of another class.](javascript:void(0);)

[B - This pattern creates a chain of receiver objects for a request.](javascript:void(0);)

[C - This pattern provides a way to evaluate language grammar or expression.](javascript:void(0);)

[D - In this pattern a request is wrapped under an object as command and passed to invoker object.](javascript:void(0);)

Answer : A

Explanation

In proxy pattern, a class represents functionality of another class. This type of design pattern comes under structural pattern. In proxy pattern, we create object having original object to interface its functionality to outer world.

Which of the following is true about design patterns?

[A - Design patterns represent the best practices used by experienced object-oriented software developers.](javascript:void(0);)

[B - Design patterns are solutions to general problems that software developers faced during software development.](javascript:void(0);)

[C - Design patterns are obtained by trial and error by numerous software developers over quite a substantial period of time.](javascript:void(0);)

[D - All of the above.](javascript:void(0);)

Answer : D

What is Gang of Four (GOF)?

[A - Four authors of Book 'Design Patterns - Elements of Reusable Object-Oriented Software' are known as Gang of Four (GOF).](javascript:void(0);)

[B - Gang of Four (GOF) is a name of a book on Design Patterns.](javascript:void(0);)

[C - Gang of Four (GOF) is a Design Pattern.](javascript:void(0);)

[D - None of the above.](javascript:void(0);)

Answer : A

Which of the following is correct list of classifications of design patterns.

[A - Creational, Structural and Behavioral patterns.](javascript:void(0);)

[B - Executional, Structural and Behavioral patterns.](javascript:void(0);)

[C - Creational, Executional and Behavioral patterns.](javascript:void(0);)

[D - None of the above.](javascript:void(0);)

Answer : A

Which of the following is correct about Creational design patterns.

[A - These design patterns are specifically concerned with communication between objects.](javascript:void(0);)

[B - These design patterns provide a way to create objects while hiding the creation logic, rather than instantiating objects directly using new opreator.](javascript:void(0);)

[C - These design patterns concern class and object composition. Concept of inheritance is used to compose interfaces and define ways to compose objects to obtain new functionalities.](javascript:void(0);)

[D - None of the above.](javascript:void(0);)

Answer : B

Which of the following is correct about Structural design patterns.

[A - These design patterns are specifically concerned with communication between objects.](javascript:void(0);)

[B - These design patterns provide a way to create objects while hiding the creation logic, rather than instantiating objects directly using new opreator.](javascript:void(0);)

[C - These design patterns concern class and object composition. Concept of inheritance is used to compose interfaces and define ways to compose objects to obtain new functionalities.](javascript:void(0);)

[D - None of the above.](javascript:void(0);)

Answer : C

Which of the following is correct about Behavioral design patterns.

[A - These design patterns are specifically concerned with communication between objects.](javascript:void(0);)

[B - These design patterns provide a way to create objects while hiding the creation logic, rather than instantiating objects directly using new opreator.](javascript:void(0);)

[C - These design patterns concern class and object composition. Concept of inheritance is used to compose interfaces and define ways to compose objects to obtain new functionalities.](javascript:void(0);)

[D - None of the above.](javascript:void(0);)

Answer : A

Which of the following is correct about Factory design pattern.

[A - This type of design pattern comes under creational pattern.](javascript:void(0);)

[B - Factory pattern creates object without exposing the creation logic to the client.](javascript:void(0);)

[C - Factory pattern refers to newly created object using a common interface.](javascript:void(0);)

[D - All of the above.](javascript:void(0);)

Answer : D

Which of the following is correct about Singleton design pattern.

[A - This type of design pattern comes under creational pattern.](javascript:void(0);)

[B - This pattern involves a single class which is responsible to create an object while making sure that only single object gets created.](javascript:void(0);)

[C - Singleton class provides a way to access its only object which can be accessed directly without need to instantiate the object of the class.](javascript:void(0);)

[D - All of the above.](javascript:void(0);)

Answer : D

Can we create a clone of a singleton object?

[A - true](javascript:void(0);)

[B - false](javascript:void(0);)

Answer : A

If we serialize a singleton object and deserialize it then the result object will be same.

[A - true](javascript:void(0);)

[B - false](javascript:void(0);)

Answer : B

Which of the following describes the Adapter pattern correctly?

[A - This pattern builds a complex object using simple objects and using a step by step approach.](javascript:void(0);)

[B - This pattern refers to creating duplicate object while keeping performance in mind.](javascript:void(0);)

[C - This pattern works as a bridge between two incompatible interfaces.](javascript:void(0);)

[D - This pattern is used when we need to decouple an abstraction from its implementation so that the two can vary independently.](javascript:void(0);)

Answer : C

Which of the following describes the Filter pattern correctly?

[A - This pattern builds a complex object using simple objects and using a step by step approach.](javascript:void(0);)

[B - This pattern refers to creating duplicate object while keeping performance in mind.](javascript:void(0);)

[C - This pattern enables developers to filter a set of objects using different criteria and chaining them in a decoupled way through logical operations.](javascript:void(0);)

[D - This pattern is used when we need to decouple an abstraction from its implementation so that the two can vary independently.](javascript:void(0);)

Answer : B

Which of the following pattern works as a bridge between two incompatible interfaces?

[A - Builder Pattern](javascript:void(0);)

[B - Adapter Pattern](javascript:void(0);)

[C - Prototype Pattern](javascript:void(0);)

[D - Filter Pattern](javascript:void(0);)

Answer : B

In which of the following pattern a class represents functionality of another class?

[A - Proxy Pattern](javascript:void(0);)

[B - Chain of Responsibility Pattern](javascript:void(0);)

[C - Command Pattern](javascript:void(0);)

[D - Interpreter Pattern](javascript:void(0);)

Answer : A

Which of the following describes the Iterator pattern correctly?

[A - This pattern is used to get a way to access the elements of a collection object in sequential manner without any need to know its underlying representation.](javascript:void(0);)

[B - This pattern is used to reduce communication complexity between multiple objects or classes.](javascript:void(0);)

[C - This pattern is used to restore state of an object to a previous state.](javascript:void(0);)

[D - This pattern is used when there is one-to-many relationship between objects such as if one object is modified, its dependent objects are to be notified automatically.](javascript:void(0);)

Answer : A

Which of the following describes the Observer pattern correctly?

[A - This pattern is used to get a way to access the elements of a collection object in sequential manner without any need to know its underlying representation.](javascript:void(0);)

[B - This pattern is used to reduce communication complexity between multiple objects or classes.](javascript:void(0);)

[C - This pattern is used to restore state of an object to a previous state.](javascript:void(0);)

[D - This pattern is used when there is one-to-many relationship between objects such as if one object is modified, its dependent objects are to be notified automatically.](javascript:void(0);)

Answer : D

Which of the following pattern is used to get a way to access the elements of a collection object in sequential manner without any need to know its underlying representation?

a. [Singleton Pattern](javascript:void(0);)

[b. Observer Pattern](javascript:void(0);)

[c. Factory Pattern](javascript:void(0);)

[d. Iterator Pattern](javascript:void(0);)

Answer : d

Retriving the elements of a collection object is an example of  
a. Iterator Pattern   
b. Factory Method Pattern  
c. Decorator Pattern  
d. Singleton Pattern

Ans: a  
  
The concepts of source, event and listener  is used in which of the following pattern?  
a. Strategy  
b. Singleton  
c. Observer   
d. Iterator

Ans: c

Which of the following is an idiom type design pattern?  
  
a. Strategy  
b. Singleton  
c. Observer   
d. Iterator

Ans: b

**Note: Also refer shared excel sheet and descriptive que/ans**