# By OnlineInterviewQuestions.com

## Design Pattern Interview Questions

In Software engineering, the design pattern is a type of solution that is given to the commonly occurring problems in the software design. The design pattern is an unfinished design that can be converted directly into the code. Apart from this, the design pattern is also a type of description or a template that is mainly used to solve a problem and it can be also used in many different situations. In the object-oriented design pattern, it generally shows the relationships and the interaction between the classes and the objects. There are lots of the **Design Pattern Interview Question** and answers that will really help you a lot.

A design pattern is one of the best solutions for all the software developers who used to face problems in Software development. There are lots of developers around the world who use the design patterns by the usage of the Java programming language. The types of the design patterns were being obtained by the trial and error by several other numerous software developers for a quite substantial period of time. The software design patterns are one of the most descriptive and the best solution for all the given different situations. Below are some of the software **Design Pattern Interview Questions** and answers.

## Q1.  What is the design pattern?

The design pattern is one of the most common repeatable solutions that are given to many different software designs. Design patterns always systematically names, motivate and also explains the general designs that address the design pattern.

## Q2.  What are the categories in which the design patterns can be divided?

The following are the categories in which the design pattern can be divided and they are:

- Creational pattern
- Behavioral patterns
- Functional patterns
- Concurrency pattern

## Q3.  What is the Creational design pattern?

A creational design pattern is a type of design pattern that mainly deals with the object of the creational mechanism. It also helps to create an object in a manner that is suitable for different situations.

## Q4.  What is the behavioral design pattern?

A behavioral design pattern is the type of pattern that identifies the common communication between the objects and also understands these types of patterns. By this method, these types of design pattern increase the flexibility to carry the communication.

## Q5.  What are the examples of the behavioral design patterns?

The following are examples of the behavioral design pattern:

- Blackboard design pattern
- Chain of Responsibility pattern
- Command pattern
- Interpreter pattern
- Iterator pattern
- Mediator pattern
- Memento pattern
- Null object pattern
- Observe pattern
- Visitor pattern

## Q6.  What is the concurrency design pattern?

The concurrency patterns are the types of design patterns that mainly deals with the multi-thread programming paradigm.

## Q7.  What are the main types of Concurrency design patterns?

The following are some of the concurrency design patterns:

- Active object
- Baulking pattern
- Barrier
- Double checked locking
- Guarded suspension
- Monitor object
- Read-write lock pattern

## Q8.  What are the languages used in the design pattern?

The following are the languages used in the design pattern:

- C++
- Java
- C#

## Q9.  What are the most important Software design patterns?

The following are some of the most important software design patterns:

- Singleton
- Factory method
- Strategy
- Observer
- Builder
- Adapter
- State

## Q10.  What is the Singleton Design pattern?

The Singleton design patterns are the types of patterns that mainly help to restrict the instantiation of the classes to one. This Singleton design pattern is very helpful when exactly one object is needed to control all the above systems.

## Q11.  What is the factory pattern in the design pattern?

The factory pattern will always work around the super factories that generally helps to create other types of factories. This factory design pattern falls under the creational pattern. This is because it helps to create another type of object.

## Q12.  What is the builder pattern?

Builder patterns help to create more of the complex patterns by the use of simple types of objects. Using steps by step process the Builder patterns create more complex patterns. These types of patterns also fall under the creational patterns.

## Q13.  What are the main usage of the patterns?

There are two main usages of the design patterns and they are:

- The design patterns always provide a standard terminology and are really very much specific to the given scenario.
- The design patterns are always considered as the best practice for all the developers. If an inexperienced software developer is learning these types of patterns then he will learn the software design in the easiest and the faster way.

## Q14.  What is proxy in Design pattern?

Proxy generally means the in place of representing or on the behalf. Proxies are also known as the surrogate, handles and wrappers. The Proxy design is closely related to the structural design pattern.

## Q15.  What are the types of the proxy design you will get in the design pattern?

The following are some of the types of the proxy design you will get in the design pattern they are:

- Remote Proxy
- Virtual proxy
- Protection Proxy
- Smart proxy

## Q16.  What are the benefits of the Proxy in the design pattern?

The following are some of the benefits of the Proxy in the design Pattern and they are:

- One of the best advantages of the Proxy design pattern is security. The proxy patterns increase security by installing the local code proxy.
- The proxy pattern avoids all the duplications of the objects that may be of the highest size and acquire huge memory.
- The proxy patterns also increase the performance of the application.

## Q17.  What is the Prototype design pattern?

Prototype design pattern mainly hides the complexity of all the new instances from the clients. The main concept of the prototype design pattern is to copy an existing object rather than creating new instances for the scratches.

## Q18. What are the types of participants of the prototype design pattern you will get?

The following are some of the types of prototype design pattern you will get and they are:

- **Prototype registry**: this type of registry, services have all the prototypes accessible using all the simple parameters.
- **Clients**: clients are the one who will be responsible for using the prototype design pattern.

## Q19. What are the differences between the design patterns and the framework?

The following are some of the differences between the design pattern and the framework:

| Design Pattern | Framework |
| --- | --- |
| A design pattern is the type of pattern that mainly deals with the object-oriented software. | The framework is mainly made up of the group of the concrete classes that can be directly implemented on the platform. |
| The design patterns always represent the solutions to the problems that mainly arises when developing software within a particular context | Frameworks are mainly concerned with the specific application domains. |
| The types of design pattern are not written in the programming language. | Frameworks are mainly written with the programming language. |

Please Visit OnlineInterviewquestions.com to download more pdfs