

DESIGN PATTERN

CREATIONAL DESIGN PATTERNS

Design patterns are mostly ?evolved? rather than ?discovered?. None of these patterns force you anything in regard to implementation; they are just guidelines to solve a particular problem , in a particular way ,in particular contexts. Code implementation is developers responsibility.

?**Creational patterns** define the best possible way in which an object can be instantiated. These describes the best way to CREATE object instances.?

There are different ways that an object can be created. The most commonly known way of creating an object is using the new keyword.

```
Book book = new Book ();
```

The new Operator creates the instance of an object, but this is hard-coding.

While coding, hard coding is the last thing one should do. Also, at times the very nature of the object which is created can change according to the nature of the program. In such scenarios, we can make use of patterns to give this a more general and flexible approach.

Types of Creational Design Patterns

1) [Factory Pattern](#)

2) Abstract Factory Pattern

3) Builder Pattern

4) Prototype Pattern

5) Singleton Pattern

STRUCTURAL DESIGN PATTERNS

Structural design patterns are concerned with how classes and objects can be composed, to form larger structures. They **simplifies the structure by identifying the relationships.**

Types of Structural Design Patterns

Adapter Pattern

Composite Pattern

Proxy Pattern

Flyweight Pattern

Facade Pattern

Bridge Pattern

Decorator Pattern

BEHAVIOURAL DESIGN PATTERNS

Behavioral patterns are those which are concerned with interactions between the objects. The interactions between the objects should be such that they are talking to each other and still are loosely coupled. The loose coupling is the key to n-tier architectures. In this, the implementation and the client should be loosely coupled in order to avoid hard-coding and dependencies

Types of Behavioural Design Patterns

Command Pattern

Mediator Pattern

Strategy Pattern

Observer Pattern

Chain of Responsibility Pattern

Template Method Pattern

State Pattern

Visitor Pattern

Interpreter Pattern

Iterator Pattern

Memento Pattern