**What is the design pattern?**

Programmer projects and experiences in community projects The design pattern is a locus in the locale in the local language, but is mostly used in the following languages ​​(object oriented).

**Categories of design patterns**

According to the book, The Gang of Four, Design Patterns: Elements of Reusable Object-Oriented Software, there are twenty-three design patterns that fall into three basic categories: creational, behavioral, and structural.

**Creational patterns**

As their name indicates, Styles provide a variety of methods to facilitate the creation of objects. The number of these styles is 5: Abstract Factory, Builder, Factory Method, Prototype and Singleton.

* **From Creational patterns we can use : MVC “Model View Controller” and this pattern to organize our work .**
* **From Creational patterns we can use OO Design Pattern to make all of A description of one of the parties to the project as a class.**

**Structural patterns**

This type of pattern defines the relationships between objects and classes in order to facilitate the process of cooperation between them in order to perceive and achieve a new function that the object or class cannot provide on its own. This class has seven patterns: Adapter, Bridge, Composite, Decorator, Facade, Flyweight and Proxy.

* **From Structural Patterns we will use Façade During Deal with Database and Classes relationships.**

**Behavioral patterns**

That is, behavioral patterns, and their purpose is to facilitate and remove the complexity in the communication between objects and classes and make it more flexible. These are 11: Mediator, Strategy, Iterator, Chain of Responsibility, Command, Interpreter, Memento, Observer, State, Template Method, and Visitor.

* **From behavioral patterns we will use Strategy, Chain of Responsibility to organize our work and effort.**
* **From behavioral patterns we will Template Method to make our work and code more Reusable and flexible .**
* **From behavioral patterns we will use Observer Or what is called Publish-Subscribe (Pub-Sub) Pattern to make our code more flexible and interactive with changes.**