# Design Patterns in Java

A design patterns are **well-proved solution** for solving the specific problem/task.

**Problem Given:**

Suppose you want to create a class for which only a single instance (or object) should be created and that single object can be used by all other classes.

**Solution:**

**Singleton design pattern** is the best solution of above specific problem. So, every design pattern has **some specification or set of rules** for solving the problems. What are those specifications, you will see later in the types of design patterns.

**Design patterns can be divided into 3 different types**

**Creational design** patterns provide solution to instantiate a object in the best possible way for specific situations.

**Structural patterns** provide different ways to create a class structure, for example using inheritance and composition to create a large object from small objects.

**Behavioral patterns** provide solution for the better interaction between objects and how to provide lose coupling and flexibility to extend easily.

