

Java & OOP

6. Construction Patterns

Why Patterns?

- Recognised problem - solution pairs
- Design Patterns - Elements of Reusable Object-Oriented Software by GoF
 - Erich Gamma, John Vlissides, Richard Helm, Ralph Johnson

Creational Patterns

- Solve some known problems in Object construction
- What we are going to see?
 - Static Factory
 - Singleton

Problem #1

- Someone wants you to create a class to represent a cartesian coordinate in 2D
- They want to construct a Point using
 - x, y
 - origin when x and y are 0
 - only x (point on x axis)
 - only y (point on y axis)

Let us code

Factory method

- used to construct an Object when a constructor is not possible or not intuitive
- When it is part of the same class then *static*
- pre-fabricate objects when the class is immutable

Problem #2

- We don't want more than one instance
- Nobody should create it
- We need to create it and provide
- Like ORIGIN object
- A product Catalog - single source of truth

Let us code

Next

Principles driven Project