

# AbstractFactory Pattern

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# Concepts



**Factory of Factories**

**Factory of related objects**

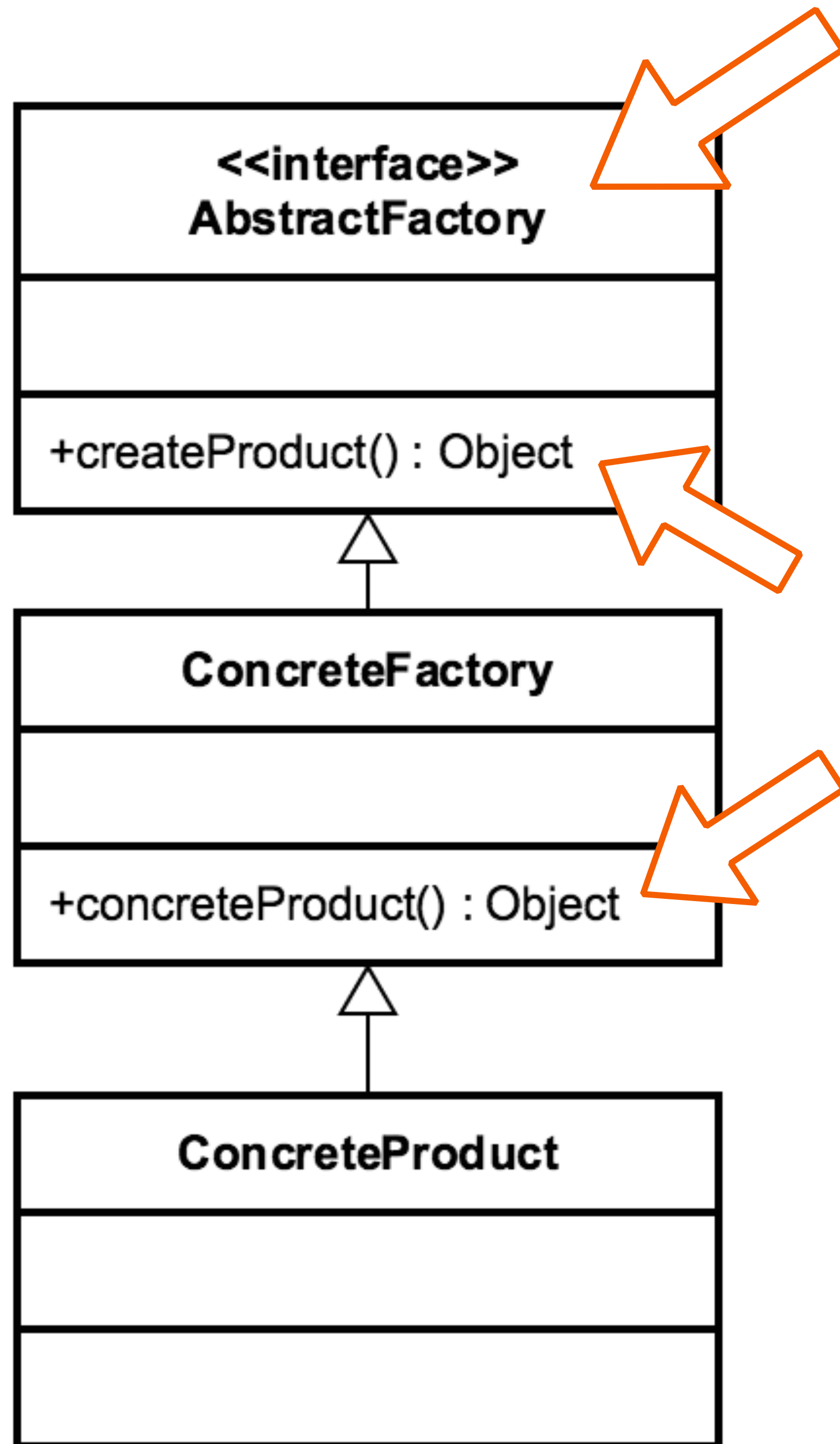
**Common interface**

**Defer to Subclasses**

**Example:**

- **DocumentBuilder**
- **Frameworks**

# Design



**Groups Factories together**

**Factory is responsible for lifecycle**

**Common Interface**

**Concrete Classes**

**Parameterized create method**

**Composition**

# Everyday Example - DocumentBuilderFactory

```
DocumentBuilderFactory abstractFactory =  
DocumentBuilderFactory.newInstance();
```

```
DocumentBuilder factory = abstractFactory.newDocumentBuilder();
```

```
Document doc = factory.parse(bais);
```

# Demo

**Code Walkthrough**

**AbstractFactory**

**Factory**

**Product**

# Pitfalls



**Complexity**

**Runtime switch**

**Pattern within a pattern**

**Problem specific**

**Starts as a Factory**

# Contrast

## **Factory**

**Returns various instances**

**Multiple constructors**

**Interface driven**

**Adaptable to environment more easily**

## **AbstractFactory**

**Implemented with a Factory**

**Hides the Factory**

**Abstracts Environment**

**Built through Composition**

# Summary

**Group of similar Factories**

**Complex**

**Heavy abstraction**

**Framework pattern**