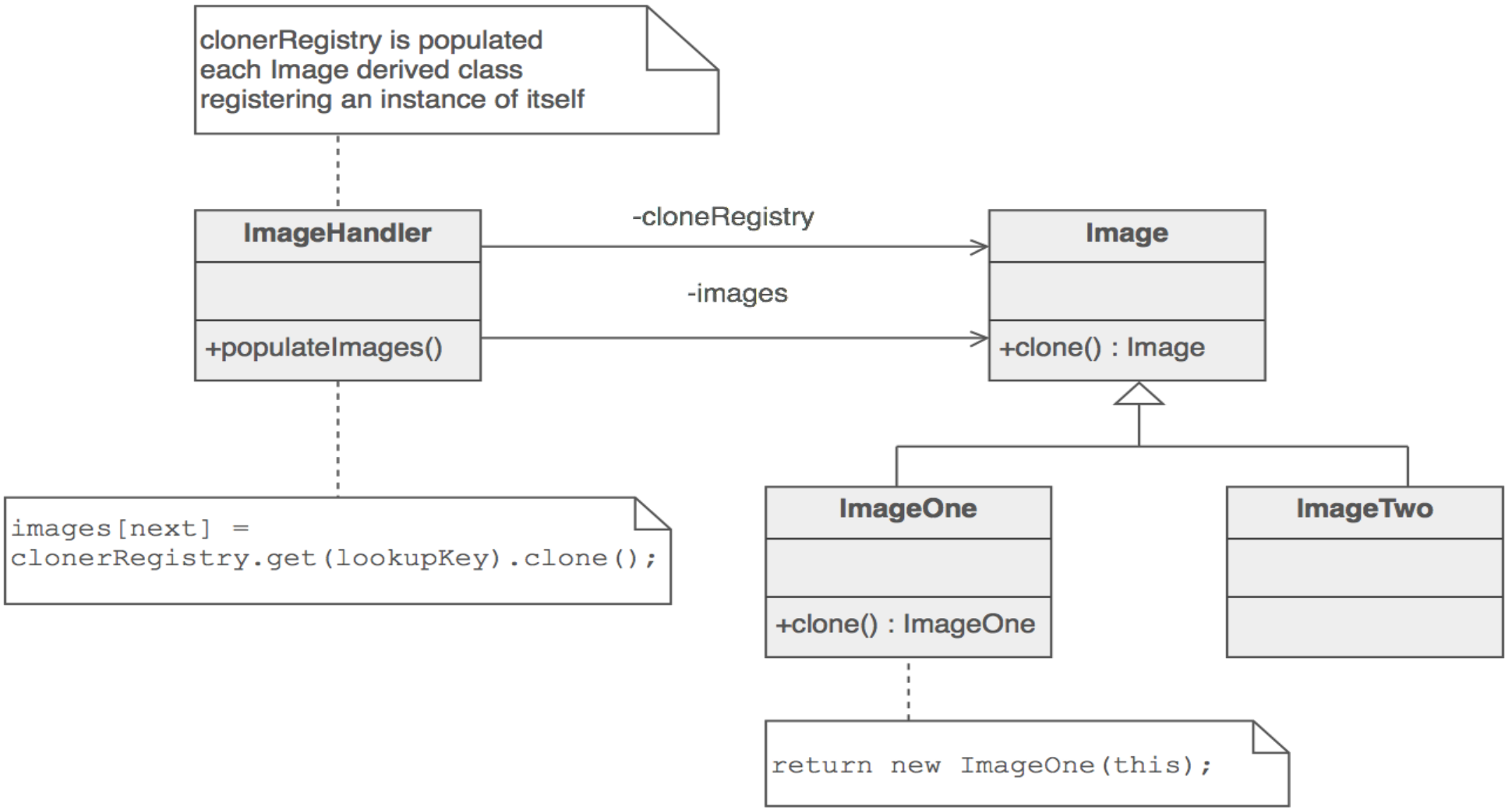
Prototype Design Pattern



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When to use Prototype?

- When creating your programs, you'll probably led to instantiate objects of significant size in memory.
- Create a large object poses little problems. But create several following may lead to kill the performance of your application.
- The solution is to copy the base object, the prototype, and then change what needs to be for the new object meets the needs.

Prototype

```
class Prototype
{
public:
        virtual ~Prototype();
        virtual Prototype* Clone() const  = 0;
};
// Implementation
ClassProduct* ClassProduct::Clone() const {
    // copy constructor
    return (new ClassProduct(*this));
}
```

Example

- Develop a code to create multiple SQL DB
  - Login
  - Passwd
  - db name

Example 2

- Develop a code to create new documents
  - XML Document
  - Word File
  - Spreadsheet
- Using (Prototype + Factory)
- Using templates for generalisation

Home Assignment

- Create 2 course module
  - Online course
    - C++
    - Java
    - .Net
  - Offline course
    - Event Management
    - Professional Ethics
    - Communication Skills

References

- http://come-david.developpez.com/tutoriels/dps/?page=Prototype
- http://come-david.developpez.com/tutoriels/dps/?page=Fabrique
- http://www.bogotobogo.com/DesignPatterns/prototype.php
- http://gameprogrammingpatterns.com/prototype.html
- http://sourcemaking.com/design_patterns/prototype