

# ① Factory Method pattern

It create object based on I/P at runtime.

Adv - ① Loose coupling  
② Encapsulation → Easy to change

Appl<sup>n</sup> - Java Collection API

By using subclass you want to create object, flexibility in code that time used.

Dis → complexity override Factory method what happen if it doesn't Exist:-

Leading tight coupling  
modifying many part for change.

# ② Abstract Factory Method

you need to create Family of related objects without specifying their concrete classes.

| AUGUST |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|
| M      | T  | W  | T  | F  | S  | S  | M  | T  | W  | T  | F  | S  | S  |
|        |    |    |    |    |    | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  |
| 9      | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23     | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |    |    |    |    |    |



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Saturday

August '10

Week 31

Adv → Security  
 Consistency → object-created within Form  
 Scalable → Adding new Product

Appl<sup>n</sup> → button, text boxes  
 database Connection Library.

Dis → Complex to implement  
 Hard to Extend

IF doesn't Exist → individually instantiate  
 families of Object.

Inconsistence.  
 UI component mixed accidentally  
 breaking UI.

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Sunday

Wakulima ya Nane Nane (Tanzania)

## Singleton Pattern

Adv - ① Lazy initialization  
 obj is created only when it is  
 needed

Appl<sup>n</sup>

Database connection  
 Configuration settings

"Whether you think you can or think you can't - you are right." - Henry Ford



August '10

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Monday

Week 32

National Day (Singapore), Women's Day (South Africa), Heroes' Day (Zimbabwe)

Dis - ① Global State → tight coupling  
② multiple thread at a time

If doesn't exist.

multiple instance created  
errors. conflict log file

## Builder pattern

Adv = Flexibility → Allow to construct complex obj  
Readable code by specifying only needed part

Sequence No matter

App<sup>n</sup> → construct pizza obj with many  
ingredient.

③ User cond<sup>n</sup> Apps

Dis - ① complex.

If doesn't exist

Constructor with many parameter  
my code hard or error.

optional parameter would

require overloading constructor.

| AUGUST |    |    |    |    |    |    |    |    |    |    |    |    |    |
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| M      | T  | W  | T  | F  | S  | S  | M  | T  | W  | T  | F  | S  | S  |
|        |    |    |    |    |    | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  |
| 9      | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23     | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |    |    |    |    |    |

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Tuesday

August '10

Week 32

Defence Forces Day (Zimbabwe)

⑧ prototype pattern.

Performance

Decoupling

App<sup>n</sup> → Game Development → Character clone

Dis → Complexity  
Hard code

what if doesn't Exist →

manually create new obj Each time  
performance Low.  
Time Consume