

# JUnit A Cook's Tour

: JUnit 3.8.x .

1.

(Test Infected : Programmers Love Writing Tests, Java Report, July 1998, Volume 3, Number 7 )

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JUnit

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JUnit ?

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|-------|---------|---------|
| Setup | Fixture | Fixture |
|-------|---------|---------|

3. JUnit

JUnit ("Patterns Generate Architectures", Kent Beck Ralph Johnson, EC00P 94 ) 가 JUnit

3.1 - TestCase

TestCase

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- 
- 

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Command (Gamma, E., et al. Design Patterns : Elements of Reusable Object-Oriented Software, Addison-Wesley, Reading, MA, 1995 )

"

"execute"

TestCase

```
public abstract class TestCase implements Test
{
    ...
}
```

Test "public abstract"

TestCase TestCase class 가

```
public abstract class TestCase implements Test
{
    private final String fName;

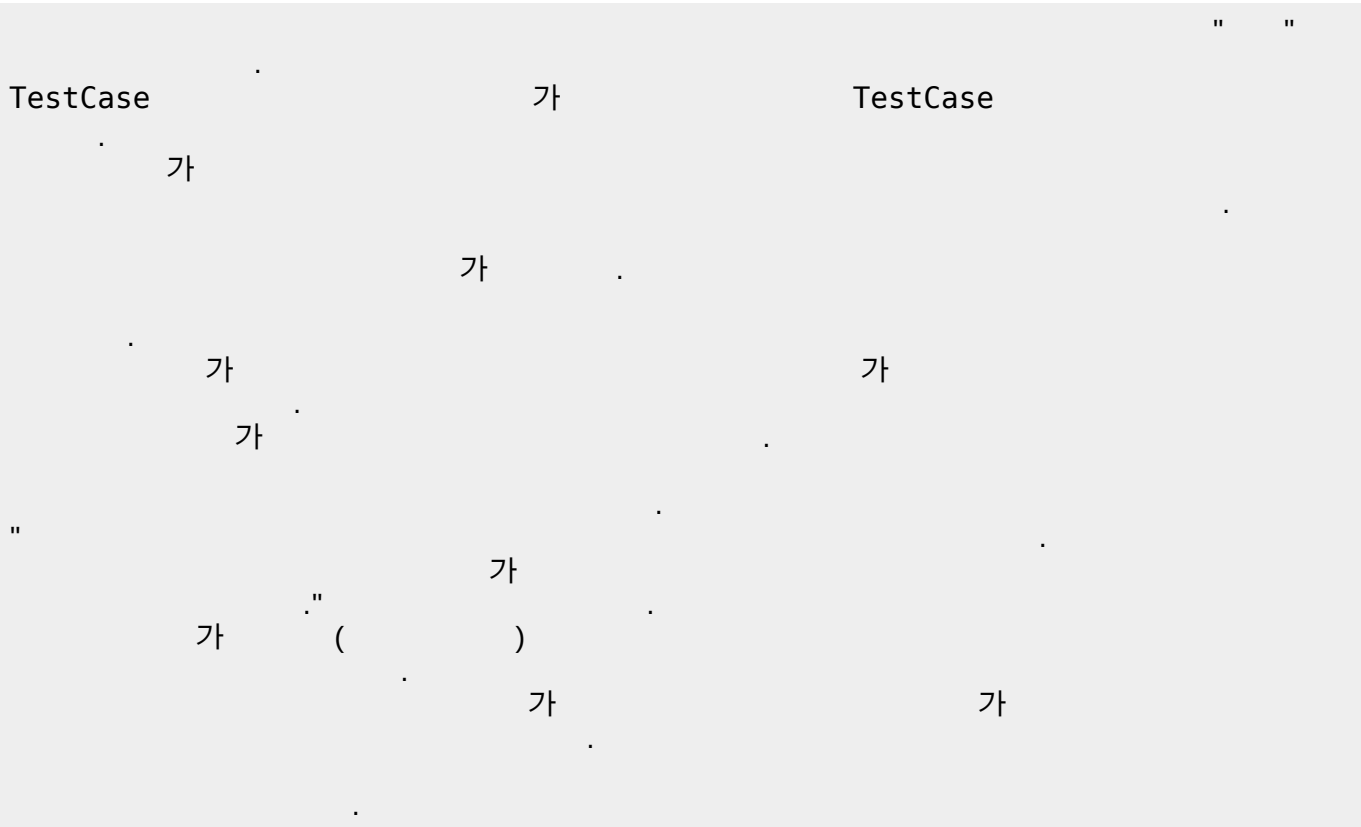
    public TestCase (String name) {
        fName = name;
    }
}
```

```
}  
  
public abstract void run ();  
...  
}
```

JUnit  
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(Gamma, E., Applying Design Patterns in Java, in Java Gems, SIGS Reference Library, 1997 )  
1 TestCase

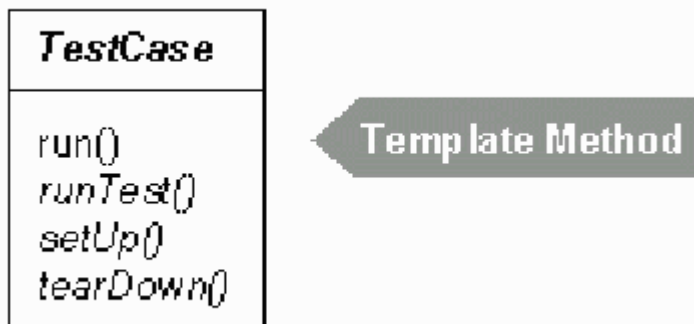


3.2 in-run ()



```
public void run()
```

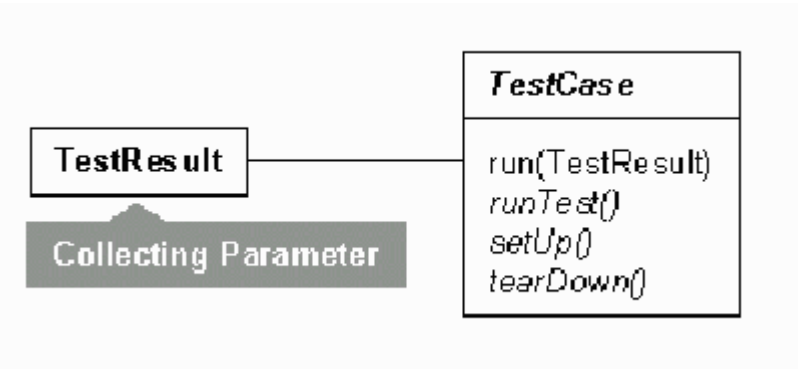
2



## 3.3 -

TestCase가 가 ? .  
가 .  
가 TestCase  
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Smalltalk (Beck, K. Smalltalk , Prentice Hall, 1996





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JUnit

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ArrayIndexOutOfBoundsException

AssertionFailedError

가 catch (1)

(2)

```
public void run (TestResult result) {
    result.startTest (this);
    ();
    {
        runTest ();
    }
    catch (AssertionFailedError e) { // 1
        result.addFailure (this, e);
    }
    catch (Throwable e) { // 2
        result.addError (this, e);
    }
    {
        tearDown ();
    }
}
```

AssertionFailedError TestCase assert

JUnit assert

가

```
protected void assertTrue (boolean condition) {
    if (! condition)
        throw new AssertionFailedError ();
}
```

```
AssertionFailedError (TestCase)가
    TestCase.run () . AssertionFailedError
```

```
AssertionFailedError {
public AssertionFailedError () {}
}
```

. TestResult

```
        addError (                , Throwable t) {
    fErrors.addElement (new TestFailure (test, t));
}
```

```

        addFailure (           , Throwable t) {
fFailures.addElement (new TestFailure (test, t));
}

```

TestFailure

```
TestFailure Object {
protected Test fFailedTest
    Throwable fThrownException;
}
```

```

        throw new IllegalArgumentException("TestResult가 null입니다.");
    }

    public void addTestResult(TestResult testResult) {
        this.testResults.add(testResult);
    }

    public void removeTestResult(TestResult testResult) {
        this.testResults.remove(testResult);
    }

    public void clearTestResults() {
        this.testResults.clear();
    }

    public List<TestResult> getTestResults() {
        return this.testResults;
    }

    public void setTestResults(List<TestResult> testResults) {
        this.testResults = testResults;
    }
}

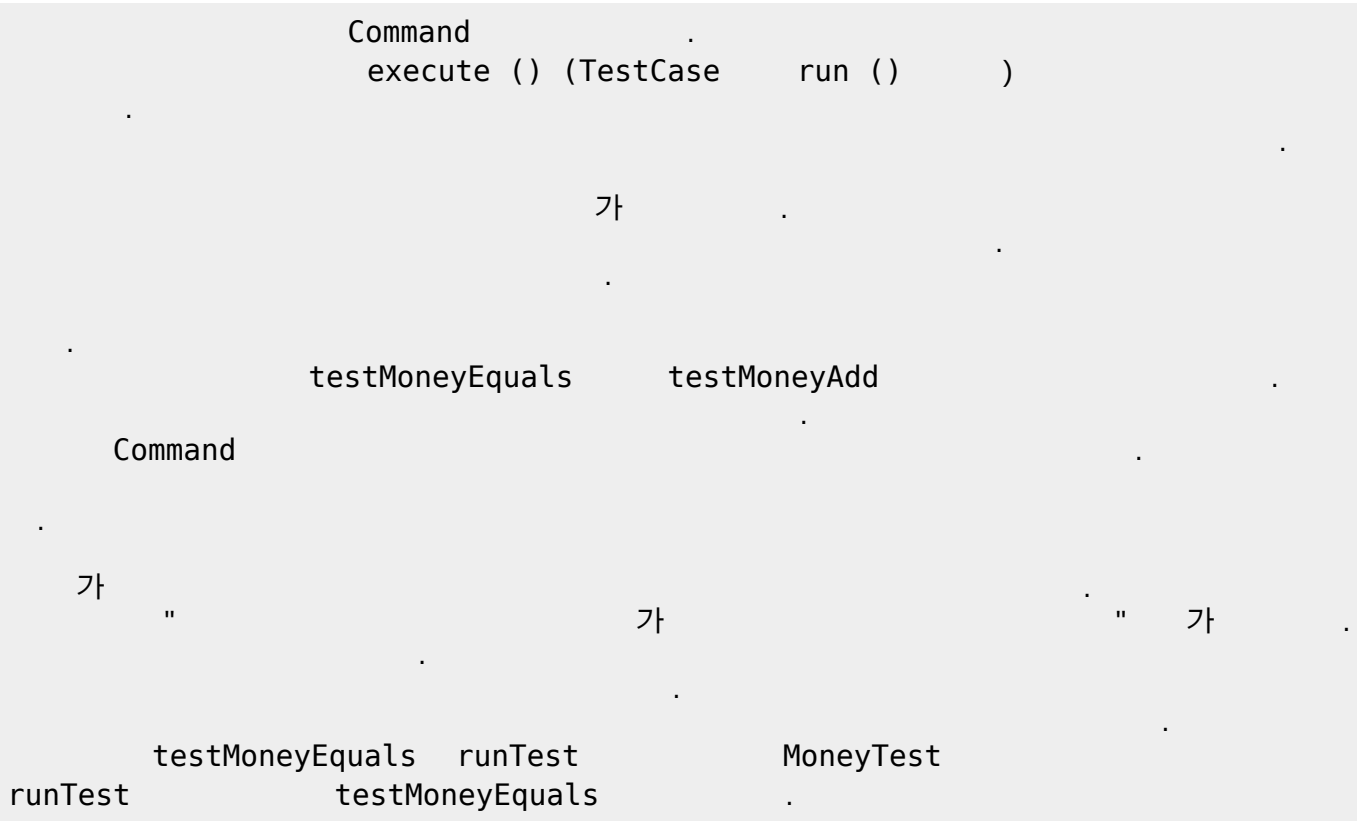
```

```
public void testMoneyEquals () {
    assertTrue (! f12CHF.equals (null));
    assertEquals (f12CHF, f12CHF);
    assertEquals (f12CHF, new Money (12, "CHF"));
    assertTrue (! f12CHF.equals (f14CHF));
}
```

```

JUnit    TestResult
TextTestResult
    UITestResult
TestResult
    HTMLTestResult
        HTML
JUnit Test Runner

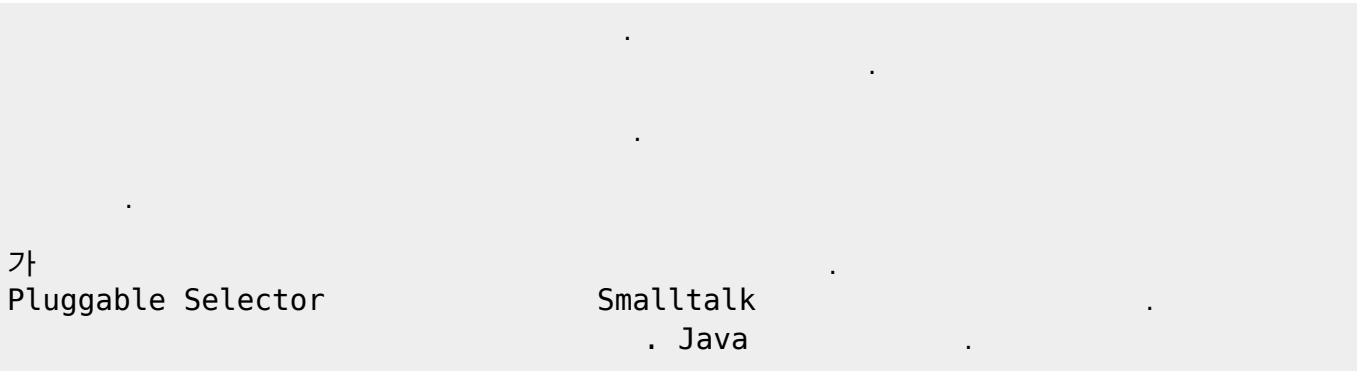
```



```
TestMoneyEquals MoneyTest {
public TestMoneyEquals () {super ( "testMoneyEquals"); }
runTest () {testMoneyEquals (); }
}
```



```
TestCase test = new MoneyTest ( "testMoneyEquals" ) {
protected void runTest () {testMoneyEquals (); }
};
```



Java

Java

API

Java

JUnit

runTest

Method

가

```

protected void runTest () throws Throwable {
    Method runMethod = null;
    try {
        runMethod = getClass (). getMethod (fName, new Class [0]);
    } catch (NoSuchMethodException e) {
        assertTrue ( "Method \" " + fName + "\" " " ", false);
    }
    try {
        runMethod.invoke (this, new Class [0]);
    }
    // InvocationTargetException   IllegalAccessException
}

```

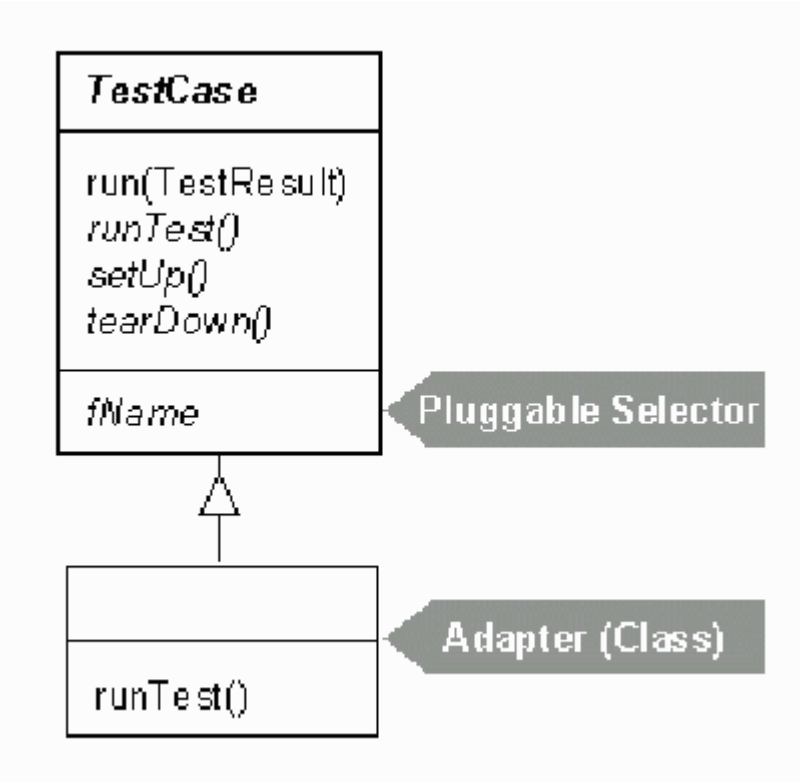
JDK 1.1

API

public

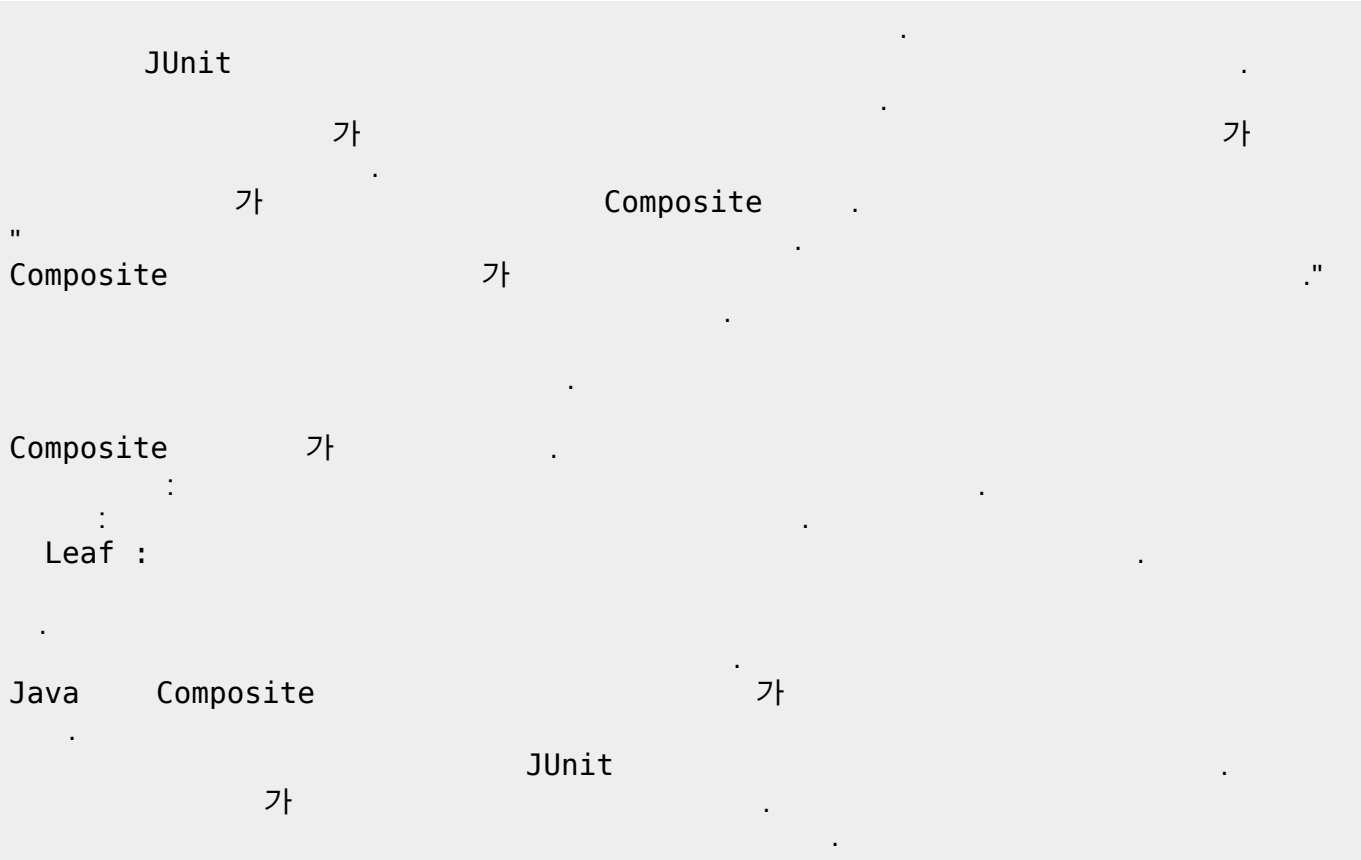
NoSuchMethodException

가 가



3.5

-TestSuite



```
public interface Test {
    public abstract void run (TestResult result);
}
```

```

TestCase Composite Leaf
      가
      TestSuite
TestSuite

```

```

TestSuite Test {
    private Vector fTests = new Vector ();
}

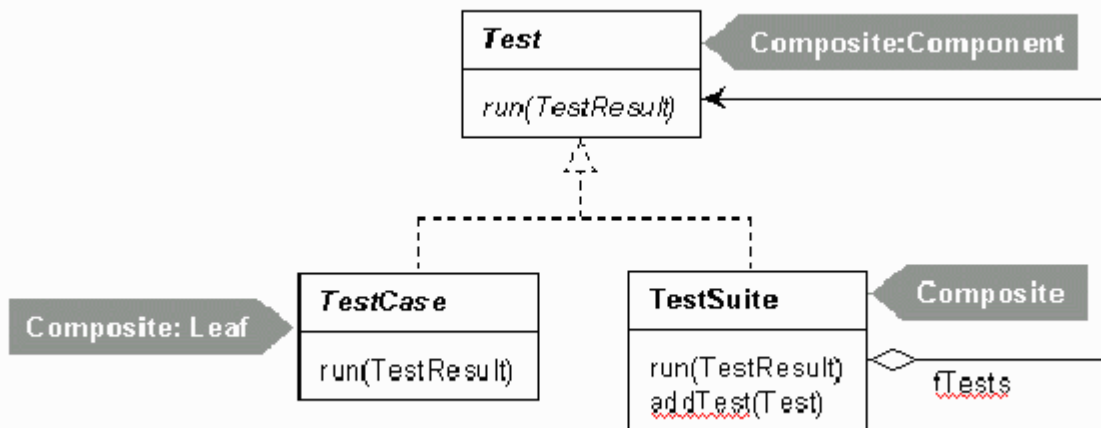
```

```
run ()
```

```

public void run (TestResult result) {
    for (Enumeration e = fTests.elements (); e.hasMoreElements ();) {
        Test test = (Test) e.nextElement ();
        test.run ();
    }
}

```



가

addTest

```

public void addTest (
    ) {
    fTests.addElement (test);
}

```

```

가
TestCase TestSuite Test
      TestSuite
      TestSuite
TestSuite

```

```

public static Test suite()
{
    TestSuite suite = new TestSuite ();
    suite.addTest (new MoneyTest ( "testMoneyEquals"));
}

```

```
suite.addTest (new MoneyTest ( "testSimpleAdd"));
}
```

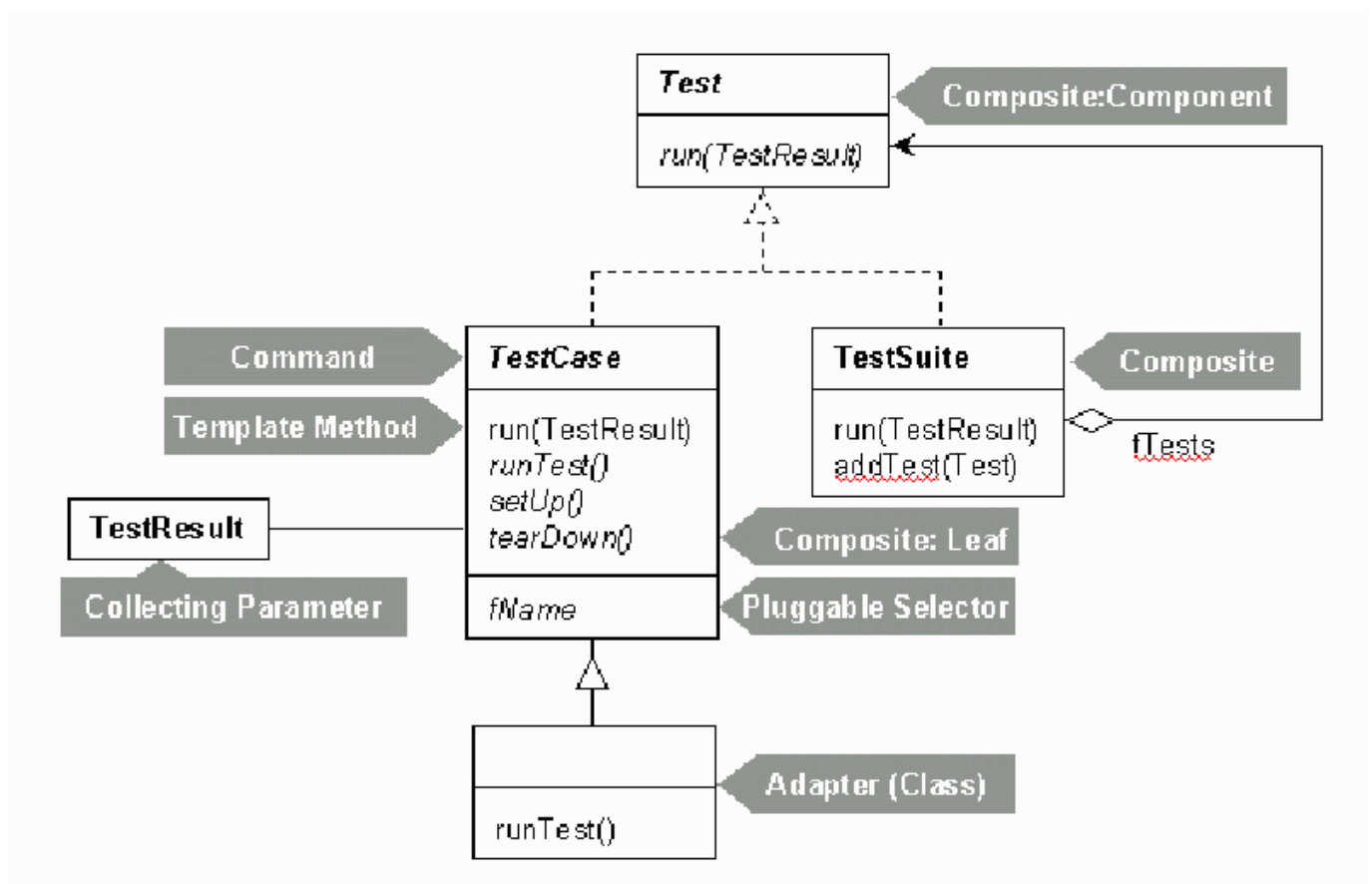
```
JUnit
    static suite ()
    {
        TestSuite
        "test"
    }
```

```
public static Test suite ()
{
    return new TestSuite (MoneyTest.class);
}
```

The original way is still useful when you want to run a subset of the test cases only.

### 3.6

JUnit A Cook's Tour  
 JUnit

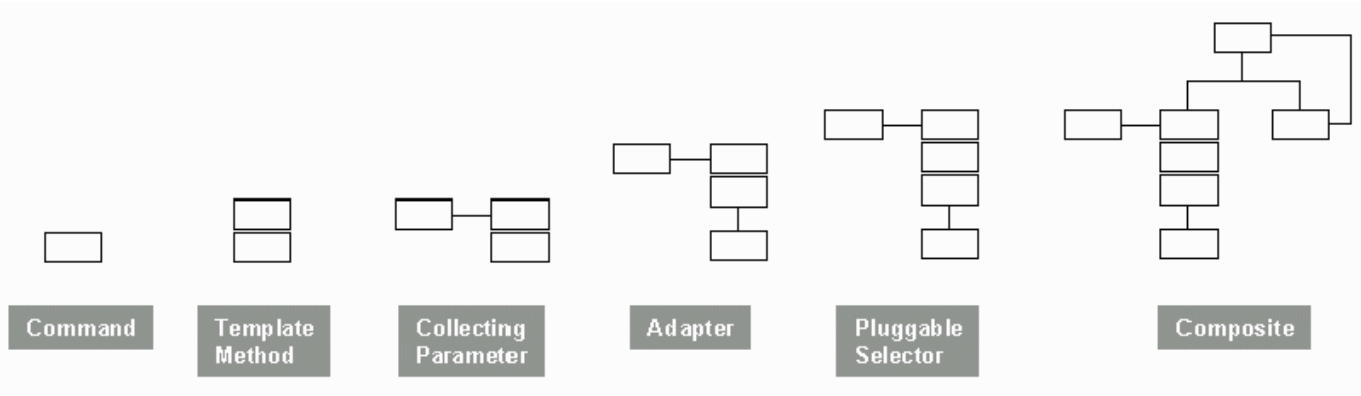


TestCase가 4가

JUnit

Command TestCase Templage Method run

(가 6.)



Composite

Composite가

4.

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Patterns

Pattern density

JUnit TestCase "가

가 가

가 " "

Eat your own dog food

TestTest 가 ,

## JUnit 가

Intersection, not union

[illegible]

```

JUnit
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가
JUnit,
monomania
(
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```

JUnit <http://www.junit.org>

5.

John Vlassides, Ralph Johnson, Nick Edgar

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