

JUnit A Cook's Tour

: JUnit 3.8.x

1.

```

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

```

2.

```

JUnit
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```

Setup Fixture Fixture

3. JUnit

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

3.1 - TestCase

TestCase

-
-
-

가

()

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 class 가

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

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

```

}

public abstract void run ();
...
}

```

JUnit
가

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

1 TestCase



3.2 in-run ()

TestCase

가

TestCase

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```

public void run()

```

```
{
    setUp ();
    runTest ();
    tearDown ();
}
```

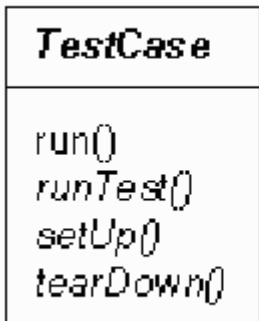
```
protected void runTest ()
{
    ...
}
```

```
protected void setUp ()
{
    ...
}
```

```
protected void tearDown ()
{
    ...
}
```

setUp tearDown

2



3.3

TestCase가

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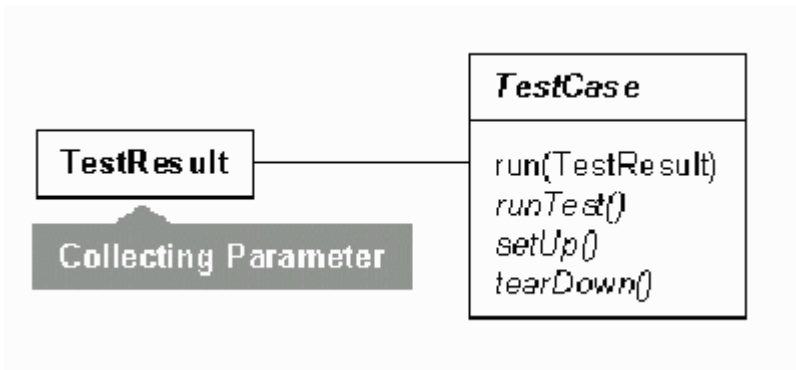
가

TestCase

Smalltalk

(Beck, K. Smalltalk

, Prentice Hall, 1996



가

가

가

JUnit
 가
 ArrayIndexOutOfBoundsException
 AssertionError
 가 catch (1)
 (2)

```

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

AssertionFailedError TestCase assert
 JUnit assert
 가

```

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

```

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;
    }
    
```

```

        " " TestResult 가
        " " TestResult
    throw
        MoneyTest
        TestResult 가
    
```

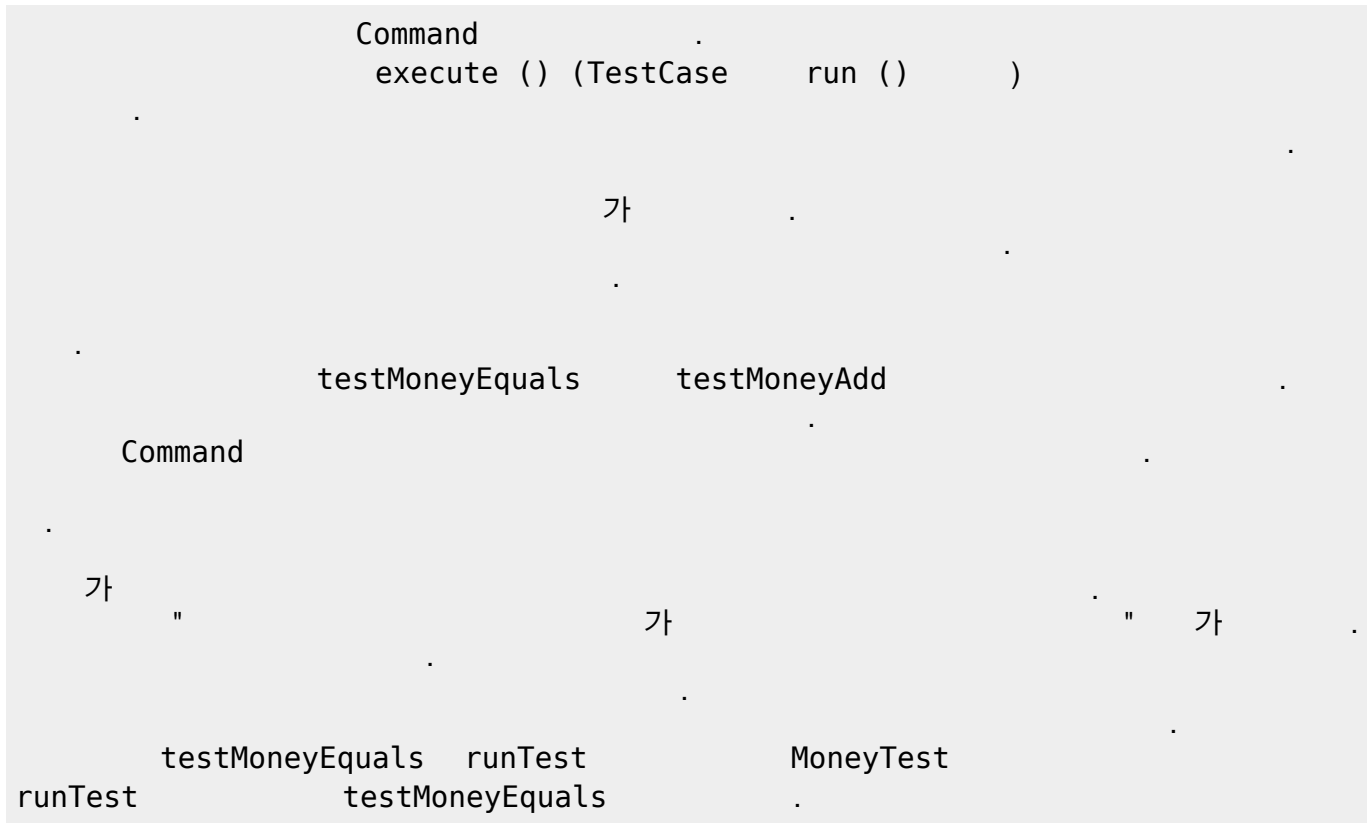
```

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

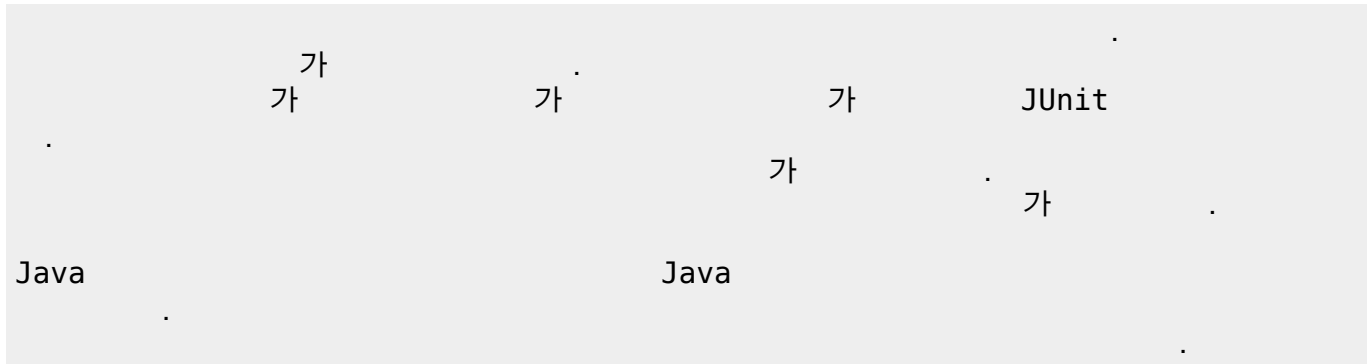
```

JUnit TestResult
TextTestResult
    UITestResult
JUnit Test Runner
TestResult
    TestResult
HTMLTestResult
    HTML
    
```

3.4 -TestCase

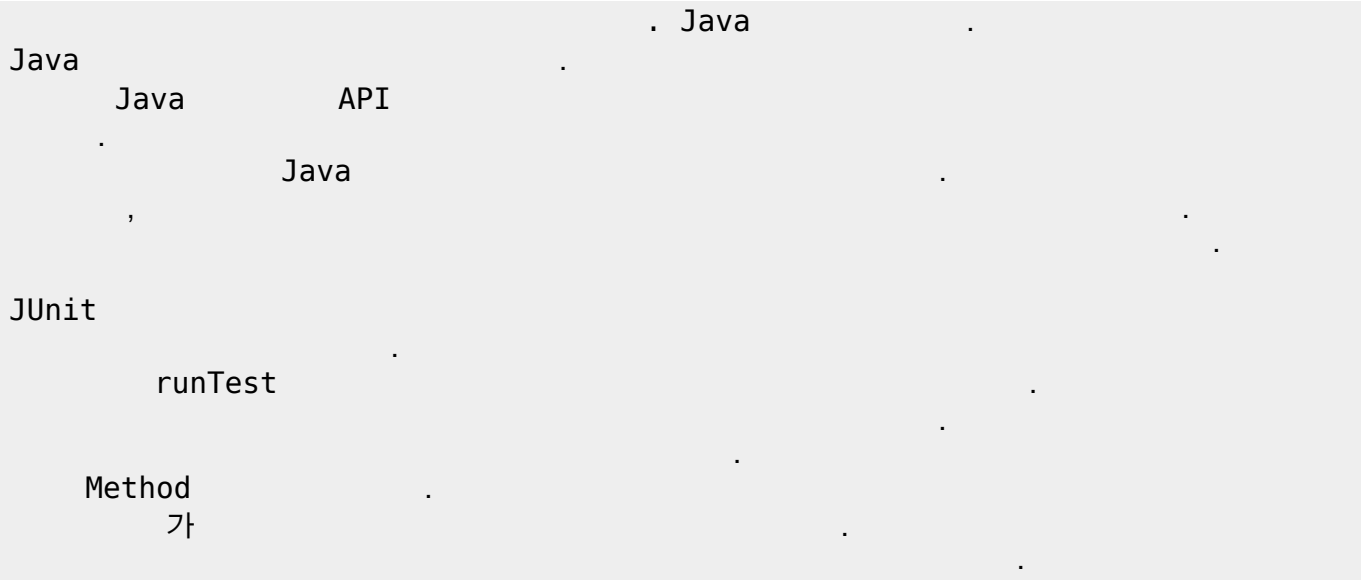


```
TestMoneyEquals MoneyTest {
public TestMoneyEquals () {super ( "testMoneyEquals"); }
runTest () {testMoneyEquals (); }
}
```



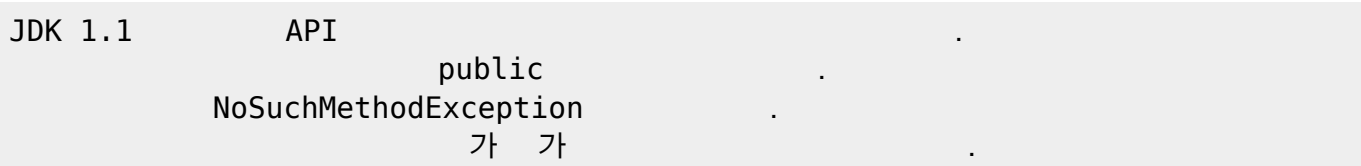
```
TestCase test = new MoneyTest ( "testMoneyEquals" ) {
protected void runTest () {testMoneyEquals (); }
};
```

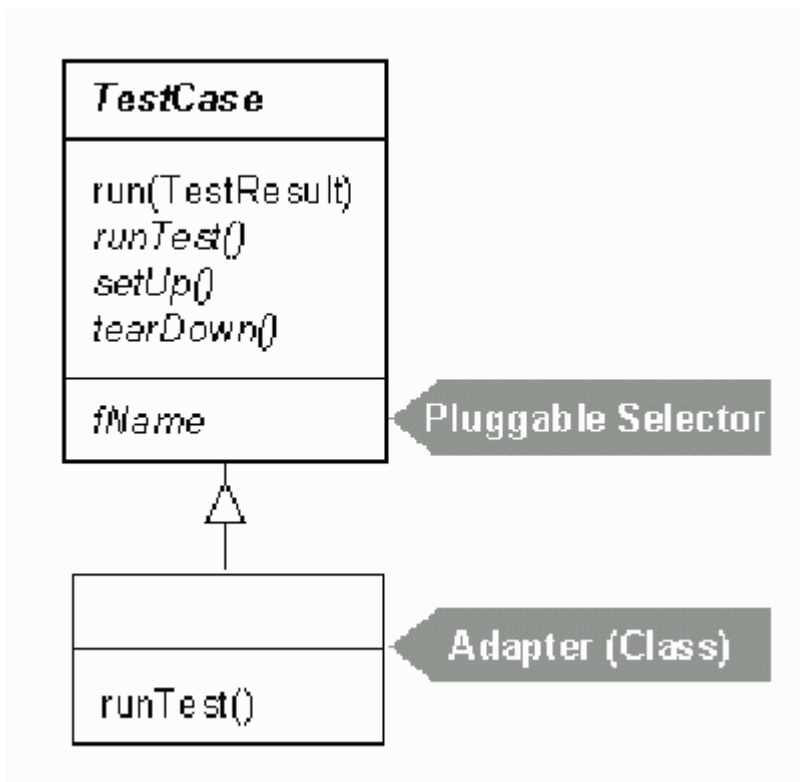




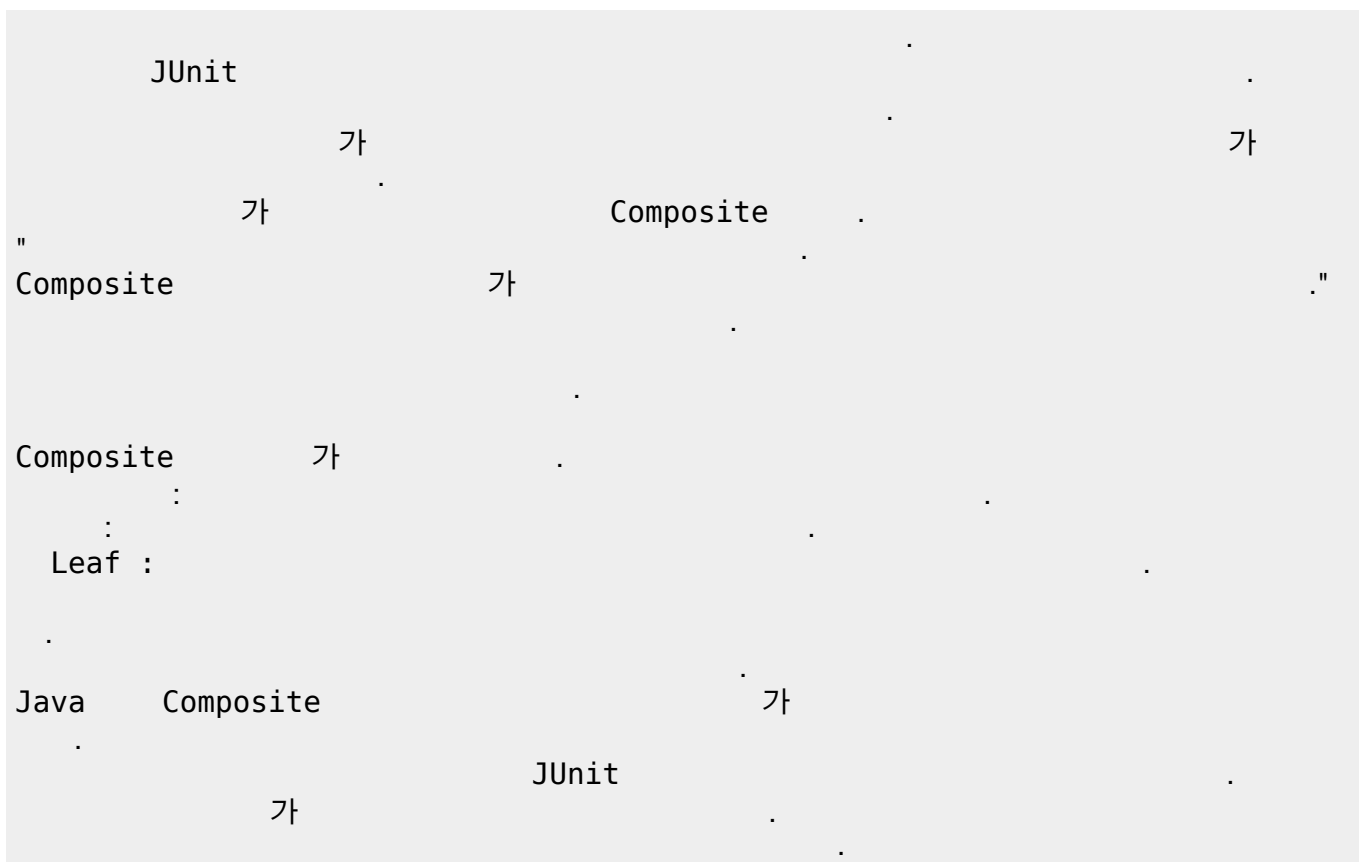
```

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
}
  
```





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 ();
}

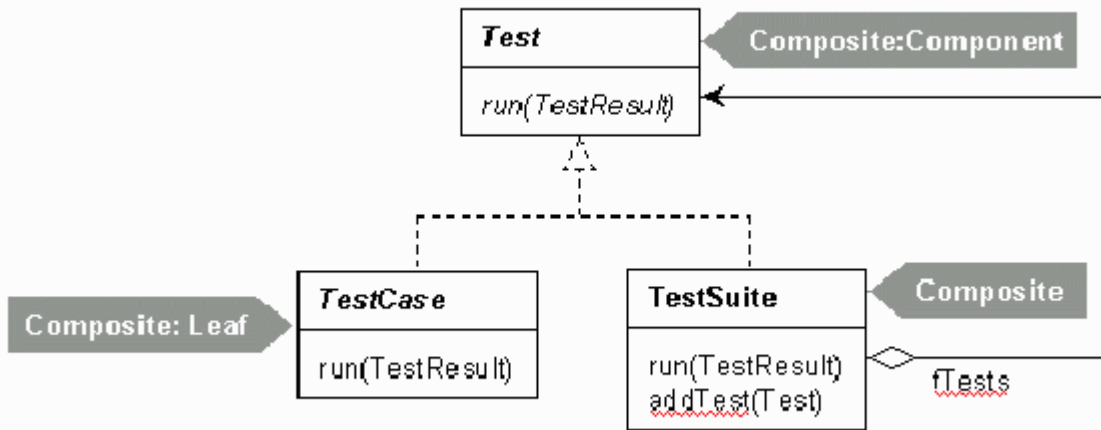
```

```
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

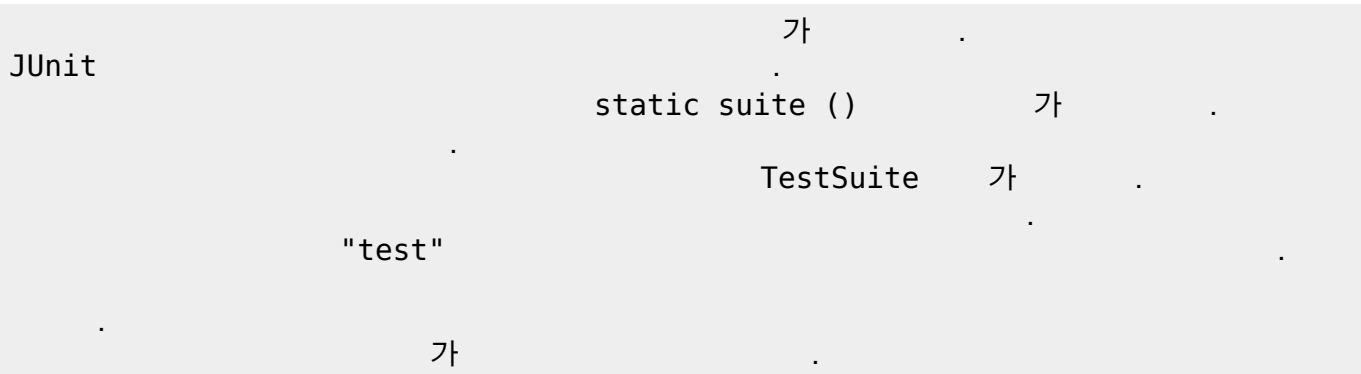
```

```

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

```

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



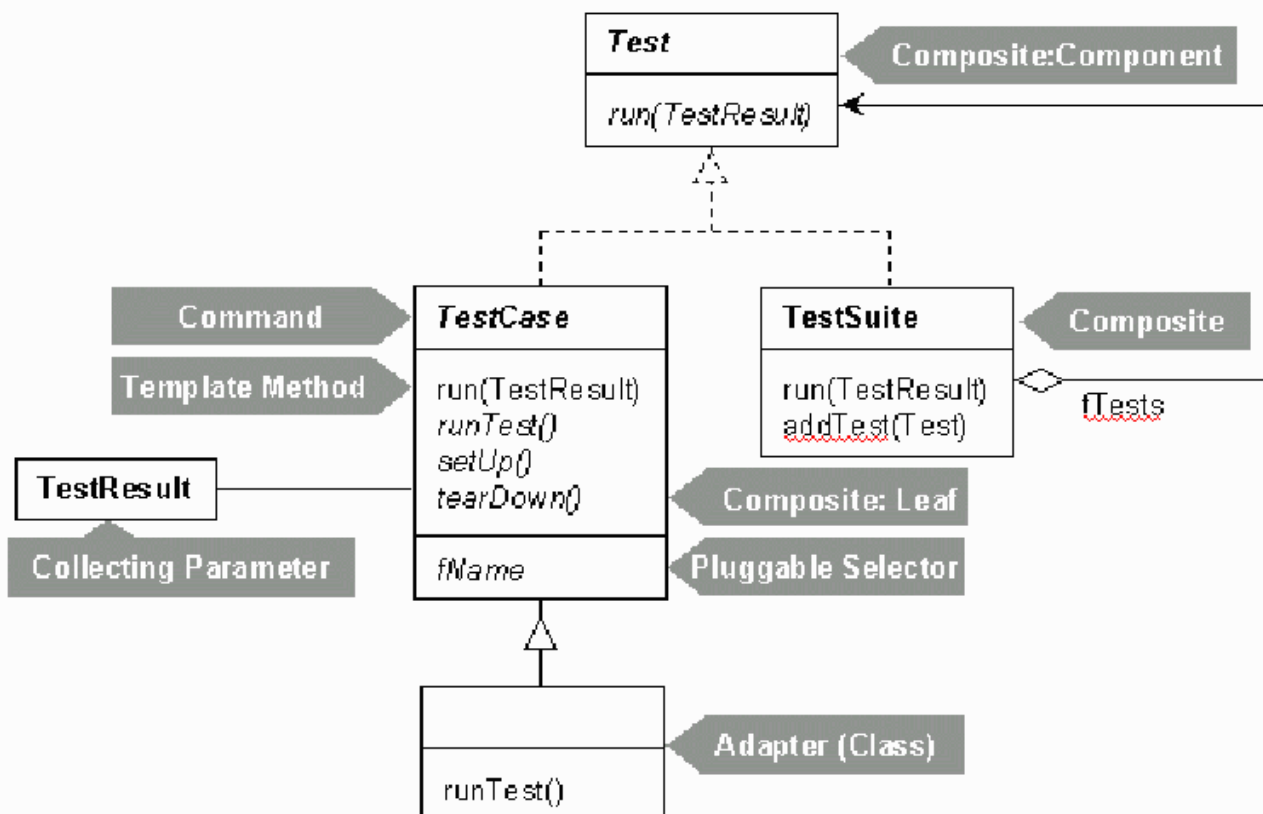
```
public static Test suite ()
{
    return new TestSuite (MoneyTest.class);
}
```

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

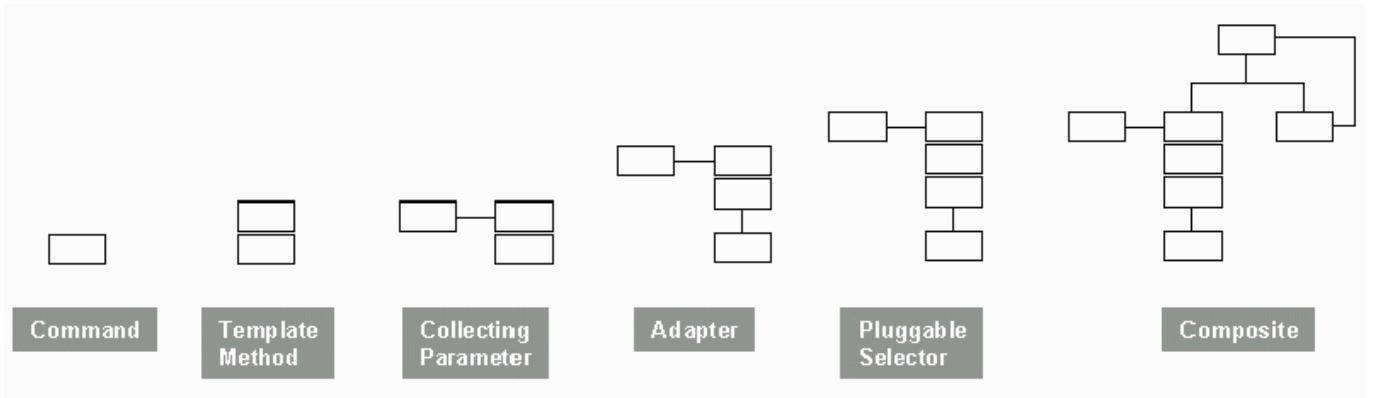
3.6

JUnit A Cook's Tour

JUnit



TestCase가 4가
 JUnit
 Command TestCase Template Method run
 (가 6 .)



Composite
 Composite가 " "

4.

가 .

Patterns

Pattern density

JUnit TestCase " "가 .
 가 가 가 .
 가 " "

Eat your own dog food

TestTest 가 , .

