

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, 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
{
    ...
}
```



```
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 Blanks to fill in - run()

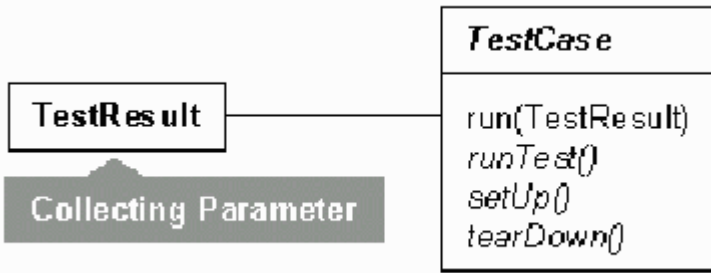
fixture

TestCase abstract 가 subclassing TestCase
가 super class

test fixture 가 fixture
fixture 가 fixture 가

가

가 fixture(setup and teardown)
fixture 가 가



가

가

가

JUnit
가

ArrayIndexOutOfBoundsException
AssertionFailedError

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 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;
}
```

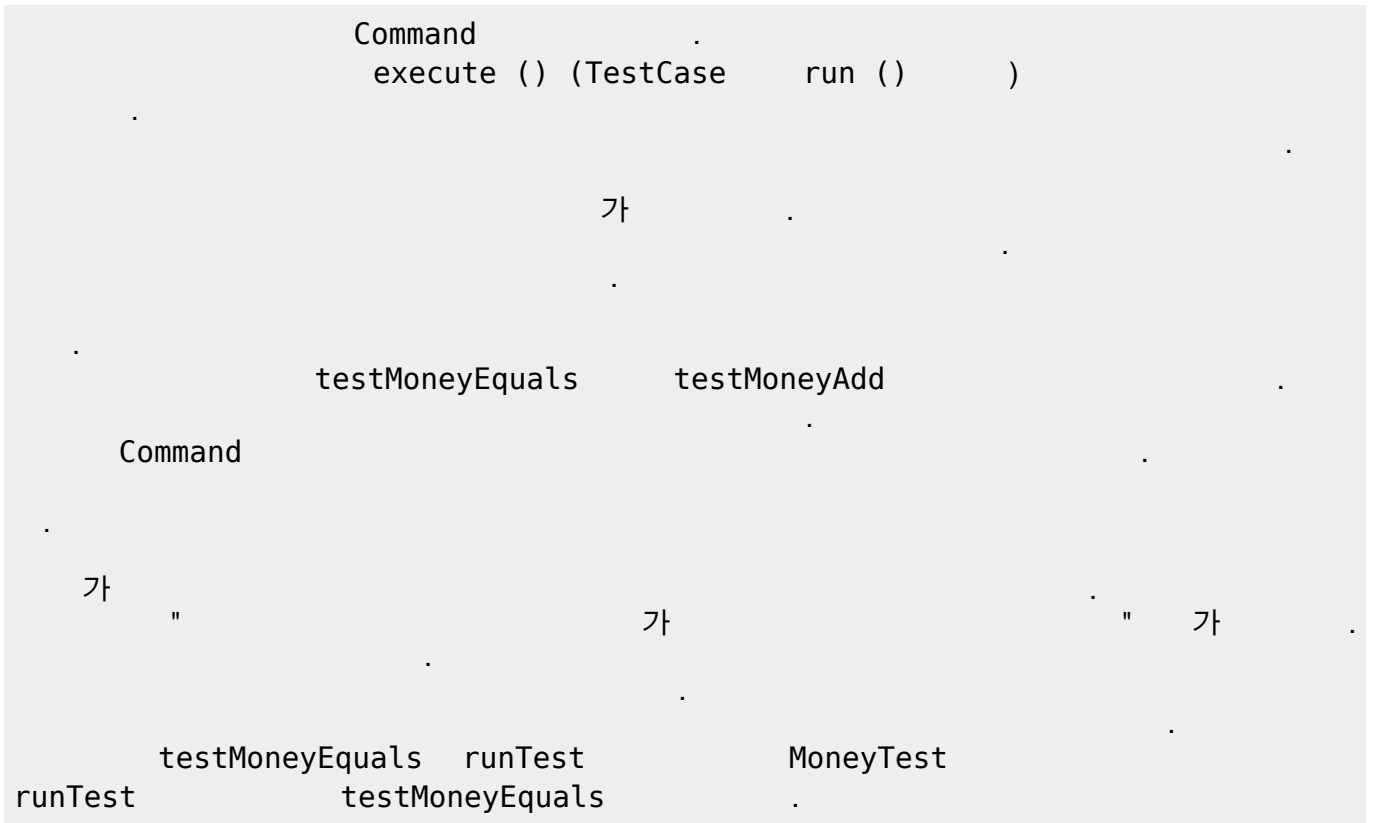
```

                TestResult
                가
                TestResult
throw
    MoneyTest
    TestResult
    가
```

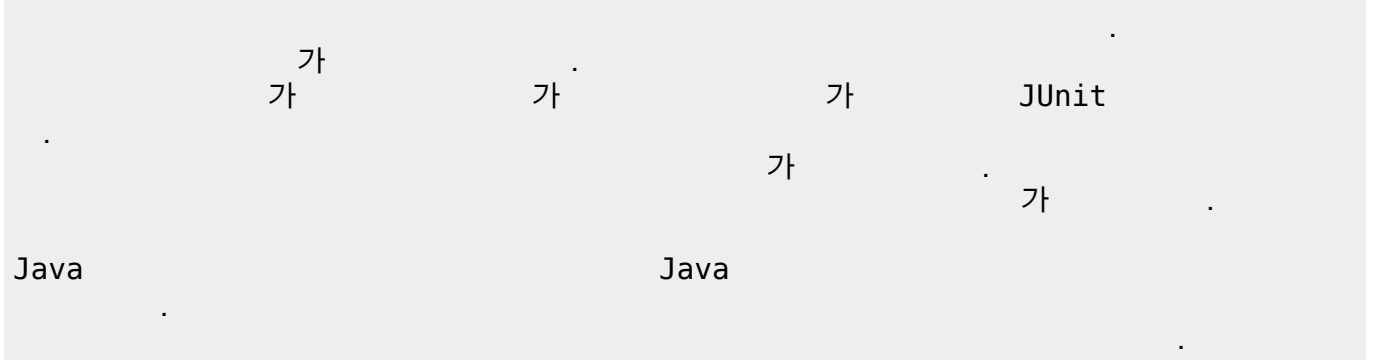
```
public void testMoneyEquals () {
    assertTrue (! f12CHF.equals (null));
    assertEquals (f12CHF, f12CHF);
    assertEquals (f12CHF, new Money (12, "CHF"));
    assertTrue (! f12CHF.equals (f14CHF));
}
```

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

3.4 -TestCase

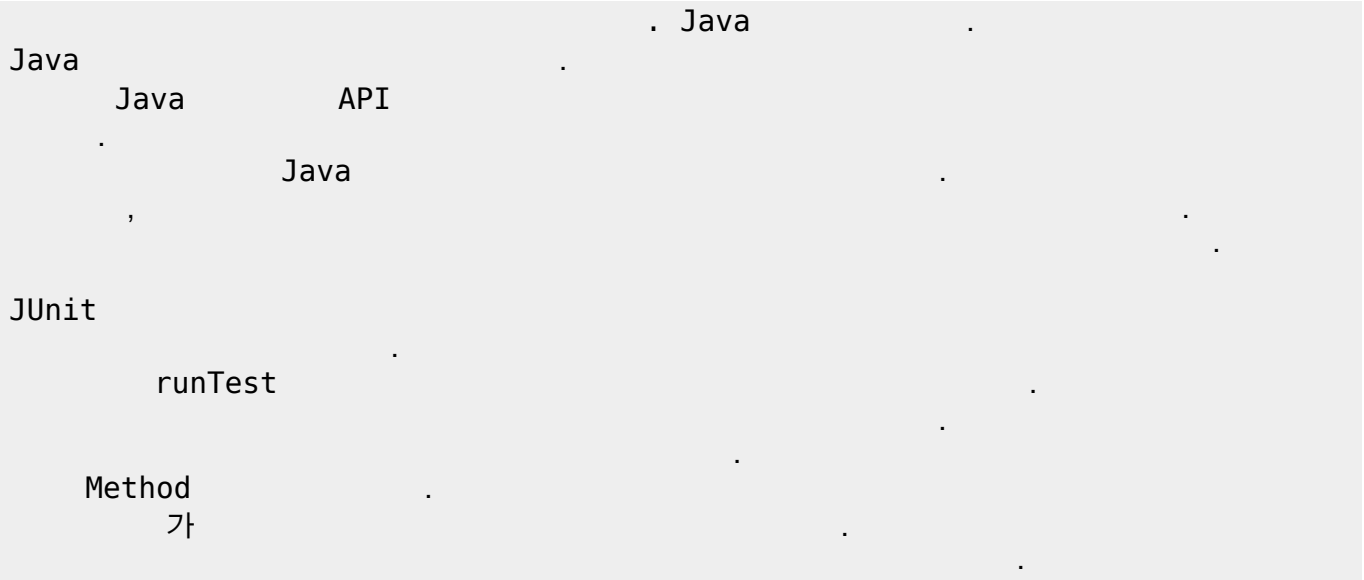


```
TestMoneyEquals MoneyTest {
public TestMoneyEquals () {super ( "testMoneyEquals"); }
runTest () {testMoneyEquals (); }
}
```



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

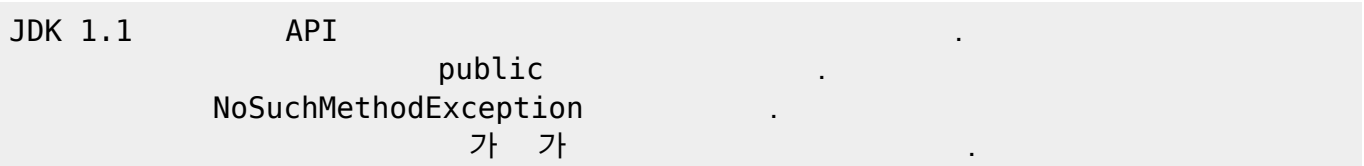


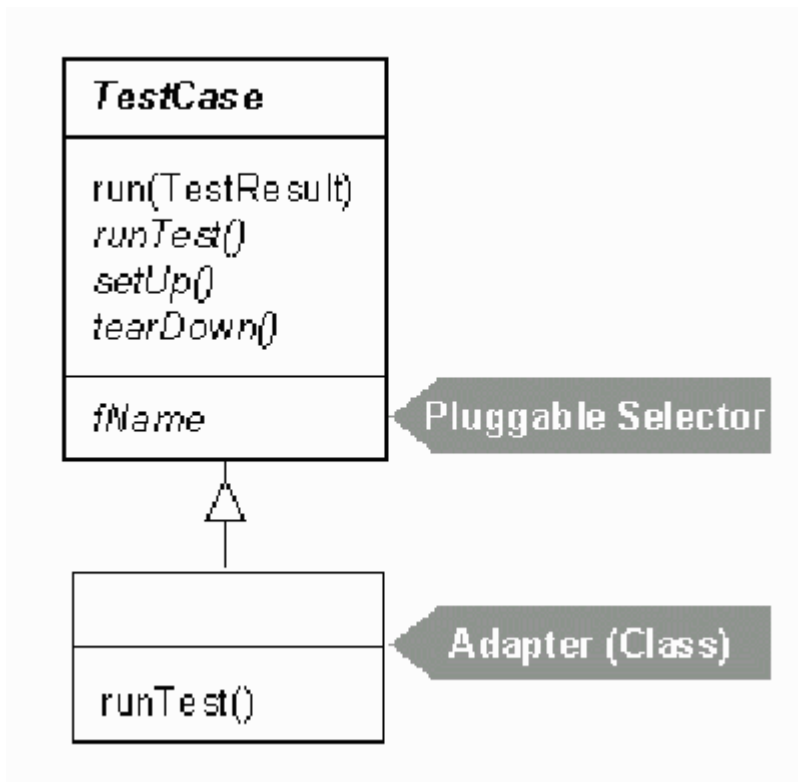


```

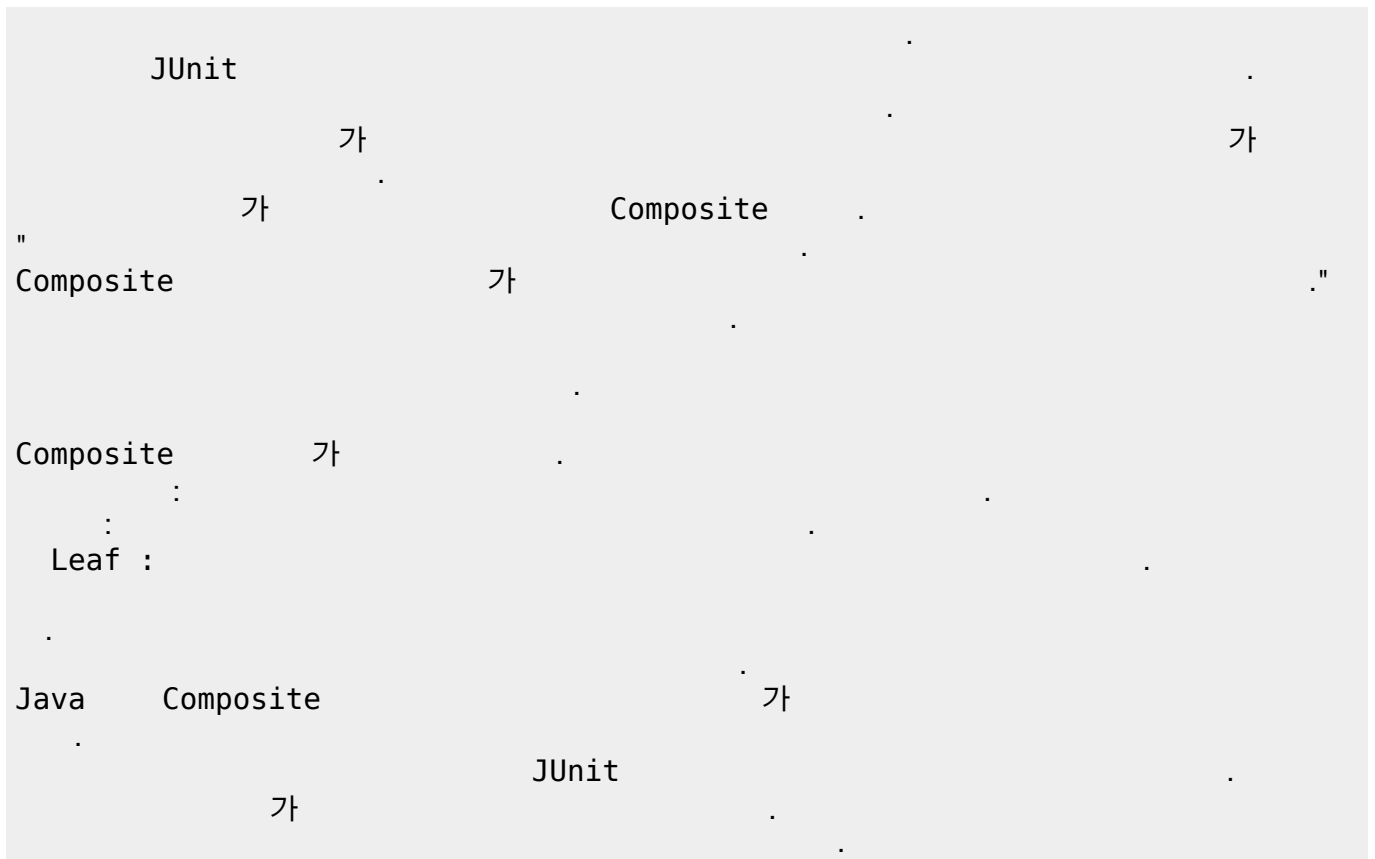
protected void runTest () throws Throwable {
  Method runMethod = null;
  try {
    runMethod = getClass (). getMethod ( fName, new Class [0]);
  } catch (NoSuchMethodException e) {
    assertTrue ( "Method \" " + fName + "\" " " ", false);
  }
  try {
    runMethod.invoke (this, new Class [0]);
  }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

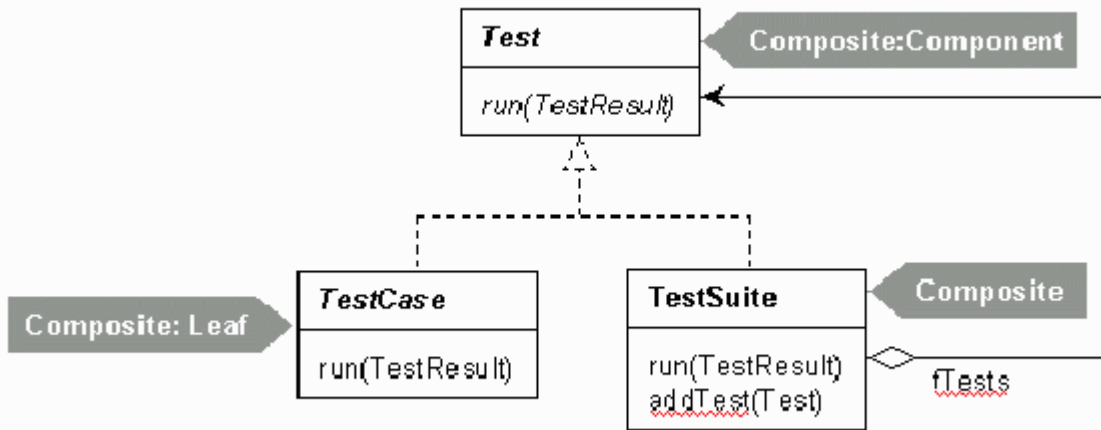
```

```
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

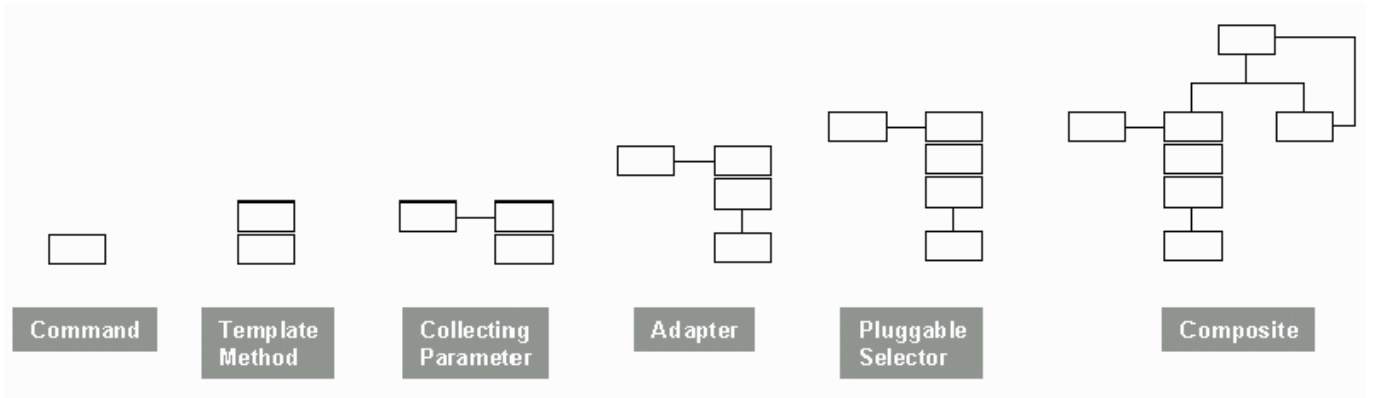
```

```

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

```


TestCase가 4가
 JUnit
 Command TestCase Templage 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 ,

