



# Junit 5 Tutorial



# JUnit

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- ❖ JUnit is a java framework written by Erich Gamma and Kent Beck.
- ❖ It is used to implement unit tests in java.
- ❖ There are suitable frameworks for other programming languages such as C# (NUnit), JavaScript (JSUnit) ...

# JUnit 5

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```
package junitDemo;
import static org.junit.jupiter.api.Assertions.*;

import org.junit.jupiter.api.AfterEach;
import org.junit.jupiter.api.BeforeEach;
import org.junit.jupiter.api.Test;

class SquareTest {

    @Test
    void test() {
        codetoTest test=new codetoTest();
        assertEquals(25,test.square(5));
        //fail("Not yet implemented");
    }
}
```

# Test Fixture

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- ❖ Common set of objects want to be used in two or more test cases.
- ❖ Avoid duplicating the code
- ❖ Created and destroyed by `init()` and `tearDown()`

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```
class SquareTest {  
  
    codetoTest test=null;  
  
    @BeforeEach  
    void init() throws Exception {test=new codetoTest();}  
  
    @AfterEach  
    void tearDown() throws Exception {test=null;}  
  
    @Test  
    void test() {  
        assertEquals(25,test.square(5));  
        //fail("Not yet implemented");  
    }  
  
}
```

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- ❖ Use `setOut()` to test the output string correct or not.
- ❖ Use `setIn()` to test the different input can be handled by the program.

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```
public void showMsg() {  
    Scanner sc= new Scanner(System.in);  
    String msg=sc.next();  
    System.out.print(msg);  
}
```

```
void outputTest() {  
    String data="halloween";  
    ByteArrayOutputStream testOut = new ByteArrayOutputStream();  
    ByteArrayInputStream testIn = new ByteArrayInputStream(data.getBytes());  
    System.setIn(testIn);  
    System.setOut(new PrintStream(testOut));  
    test.showMsg();  
    assertEquals(data,testOut);  
}
```

# Reference

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- [http://junit.sourceforge.net/doc/faq/faq.htm#overview\\_1](http://junit.sourceforge.net/doc/faq/faq.htm#overview_1)
- <http://caterpillar.onlyfun.net/Gossip/JUnit/JUnitGossip.html>
- <https://junit.org/junit5/docs/current/user-guide/#overview>