

Test Driven Development

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<https://github.com/dtanzer/tdd-examples-Java>

Junit 5

Test Class

```
public class ProgramTests {  
    /* Test methods */  
}
```

Test Method

- In a test class...

```
@Test
```

```
public void someTest()
```

```
{
```

```
    ...
```

```
}
```

Ignore Test Class / Method

- Add “Disabled” annotation

```
@Test
```

```
@Disabled
```

```
public void MainTest()
```

```
{
```

```
    ...
```

```
}
```

Setup / Teardown (1)

- Before **each** test method

```
@BeforeEach  
public void setup() {  
    ...  
}
```

- After **each** test method

```
@AfterEach  
public void teardown()  
{  
    ...  
}
```

Setup / Teardown (2)

- Before **all** test methods from the test class

@BeforeAll

```
public static void  
setupClass() {  
    ...  
}
```

- After **all** test methods from the test class

@AfterAll

```
public static void  
teardownClass() {  
    ...  
}
```


Assertions

- Import

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

- Inside a test method

```
assertEquals(expected, actual);
```

Assert Exception Thrown

- Inside a test method

```
assertThrows(  
    IllegalArgumentException.class,  
    ()->doesNotAcceptNull(null));
```

AssertJ

Import

```
import static org.assertj.core.api.Assertions.*;
```

Assertion

- In a test method...

```
assertThat(actual).[comparison](expected);  
assertThat(firstName).isEqualTo("Steph");
```

- Advantages?

Assumption

- Import

```
import static org.assertj.core.api. Assumptions.*;
```

- In a test method

```
assumeThat(firstName).isNotNull();
```

Assert Exception Thrown

- Inside a test method

```
assertThatThrownBy(  
    ()->{ throw new Exception("boom!"); }  
).hasMessage("boom!");
```