JUNIT FRAMEWORK

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AGENDA

Introduction About Junit

Junit Architecture

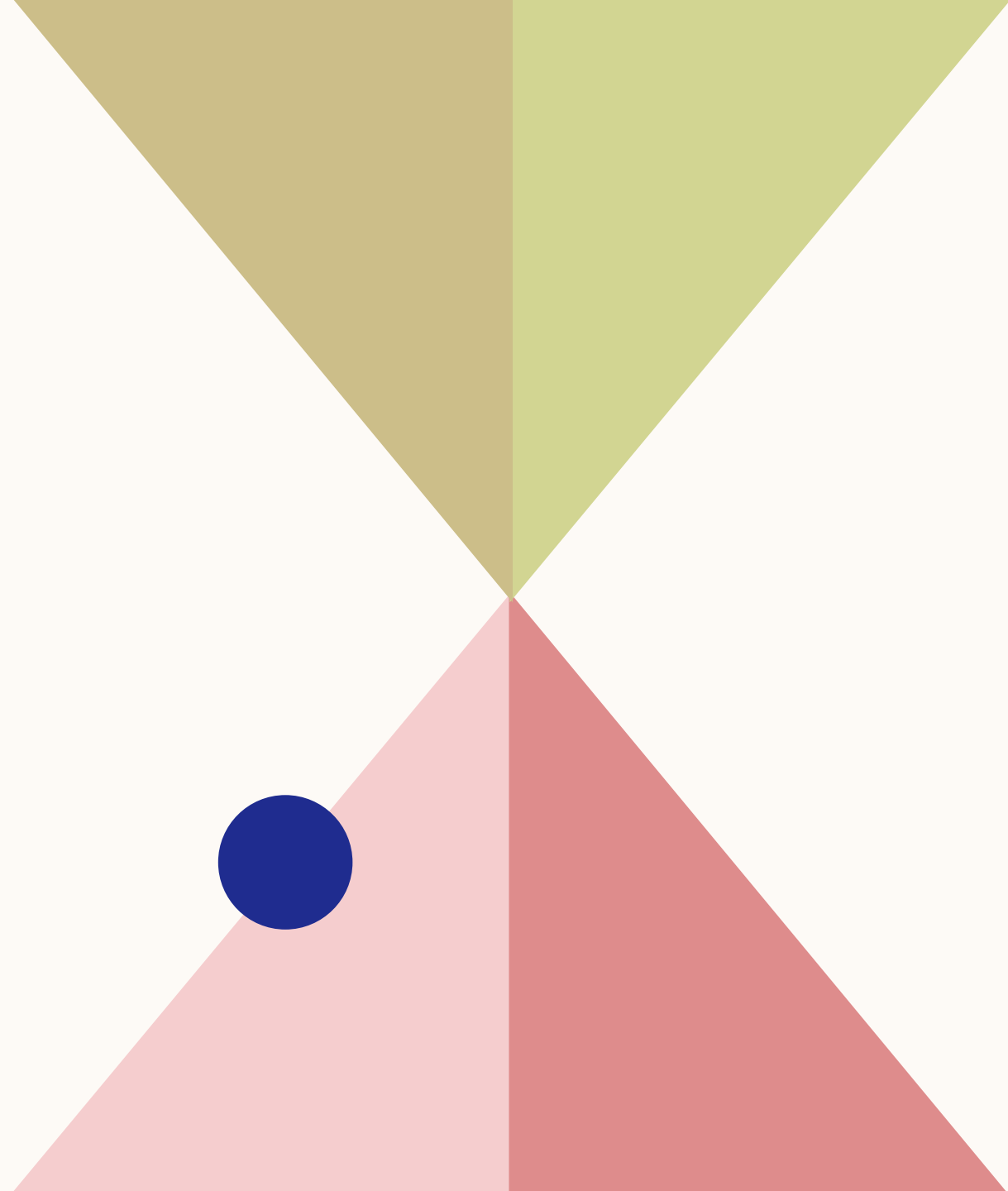
How Junit works

Environment Set up

Junit Methods with Example

Junit Annotation

Summary



INTRODUCTION

Junit is a framework for run test cases. OR Junit is framework for unit testing.

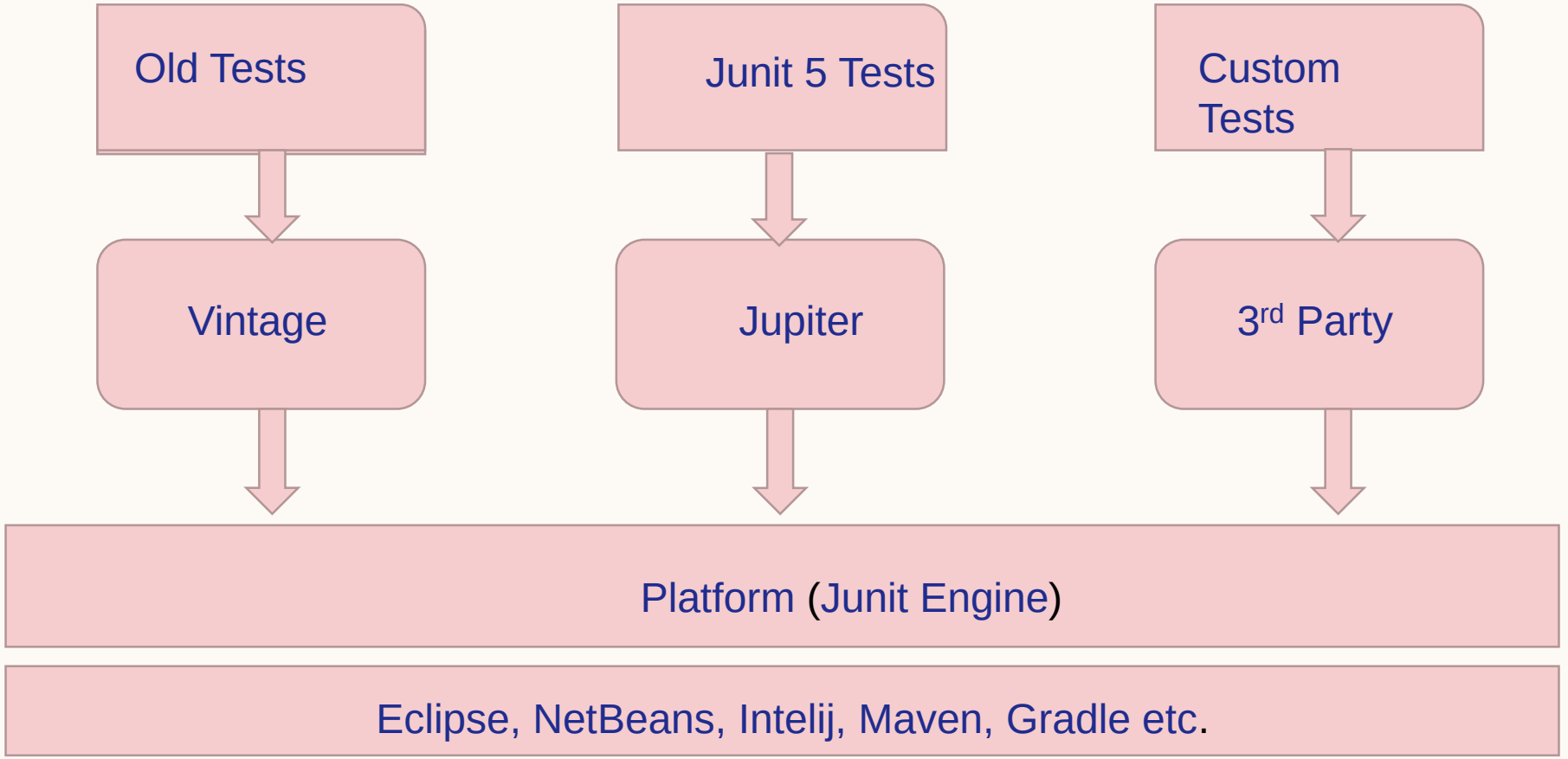
Unit testing:- It is Test Driven Development (TDD).It is a process where you write the test code first and then you write development code and pass to test.

In order to run test cases, there is platform to run the test cases called Junit Engine.

There are 3 set of API available with Junit 5 to utilise junit platform.

1. Vintage
2. Jupiter
3. 3rd Party API

JUNIT ARCHITECTURE



HOW JUNIT WORKS ?

Example:

```
package edubridge.com;

public class RectangleUtilities {

                public static int getArea(int height, int width){
                        return height* width;
        }
                public static int getPerimeter(int height, int width){
                        return 2*(height+width);
        }
}
```

How do you show to the development team that the above methods is working correctly?

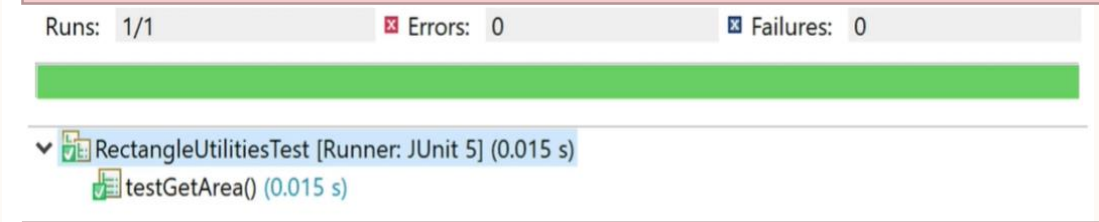
Answer, you write junit test and check the test passes.

HOW JUNIT WORKS ? (CONT..)

we write test cases code(see bellow)

```
package edubridge.com;
import static org.junit.jupiter.api.Assertions.*;
import org.junit.jupiter.api.Test;
class RectangleUtilitesTest {
        @Test
        public void testGetArea(){
        int expected=6;
        int actual =
RectangleUtilities.getArea(2,3);
        assertEquals(expected, actual);
        }
}
```

when you run the test class, if you get green bar(shown bellow)this mean all your test has passed.



What if your test found an error?
Junit show red bar(given bellow) along with a helpful error message

LOCAL ENVIRONMENT SET UP

1)Eclipse/ Netbean/Intelij And JDK 1.5 & Above. OR
2)Eclipse With Maven Project(here We Need To Add Dependency Code In POM.Xml) OR
3)Spring Boot

Here We Will Follow First Approach
1) Eclipse And JDK 1.5 Or Above Version

JUNIT METHODS

assertEquals	assertNotEquals	assertTrue	assertFalse	assertArrayEquals
Check that 2 primitive/object is equal	Check that an object is not equal	Checks that a condition is true.	Checks that a condition is false.	Check that two Arrays object are equals

JUNIT METHODS(CONT..)

Example: assertTrue():

```
package edubridge.com;
import static org.junit.Assert.assertTrue;
import org.junit.jupiter.api.Test;
class AssertTrueTheory {
                @Test
                public void test1(){
                assertTrue(true);
                }
                @Test
                public void test2(){
                assertTrue(4==4);
                }
                @Test
                public void test3(){
        assertTrue("edubridge".length()==3);
                }
}
```

Example on assertFalse()

```
package edubridge.co;
import static org.junit.jupiter.api.Assertions.*
import org.junit.jupiter.api.Test;
class AssertFalseTheory {
        @Test
        public void myTest(){
                assertFalse(false);
                assertFalse(2==3);
                assertFalse("edubridge".length()==3);
        }
}
```

ANNOTATION IN JUNIT

@Test	@BeforeAll	@AfterAll	@After	@Ignore	@BeforeClass & @AfterClass
It tell the junit that the method which is attached run as a test case	Method marked with beforeAll run exactly once prior to the running of test methods.	Method marked with aferAll run exactly once after the running of test methods.	This will perform the method after all tests have finished.	The Ignore annotation is used to ignore the test and that test will not be executed.	@BeforeAll-it run once before any of the test methods in the class. @AfterClass:- it run once after any of the test methods in the class.

THE DEVELOPMENT PROCESS SUMMERY

- Write test that strategically test your code.
- Keep writing/fixing/refining your code until all of your tests pass.
- Ensure you did not break existing code

THANK YOU

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