

JUnit

It is an *open-source testing framework* for java programmers. The java programmer can create test cases and test his/her own code. It is one of the unit testing framework. Current version is **junit 4**.

To perform unit testing, we need to create test cases. The unit test case is a code which ensures that the program logic works as expected.

The **org.junit** package contains many interfaces and classes for junit testing such as Assert, Test, Before, After etc.

Types of unit testing

- 1) Manual Testing
- 2) Automated Testing

Annotations for Junit testing

The Junit 4.x framework is annotation based, so let's see the annotations that can be used while writing the test cases.

@Test annotation specifies that method is the test method.

@Test(timeout=1000) annotation specifies that method will be failed if it takes longer than 1000 milliseconds (1 second).

@BeforeClass annotation specifies that method will be invoked only once, before starting all the tests.

@Before annotation specifies that method will be invoked before each test.

@After annotation specifies that method will be invoked after each test.

@AfterClass annotation specifies that method will be invoked only once, after finishing all the tests.

Methods of Assert class

The common methods of Assert class are as follows:

1. **void assertEquals(boolean expected,boolean actual):** checks that two primitives/objects are equal. It is overloaded.
2. **void assertTrue(boolean condition):** checks that a condition is true.
3. **void assertFalse(boolean condition):** checks that a condition is false.
4. **void assertNull(Object obj):** checks that object is null.
5. **void assertNotNull(Object obj):** checks that object is not null.