

JUnit One-Page Cheat Sheet

What is JUnit?

JUnit is a Java testing framework used to write and run unit tests. It helps developers test small pieces (units) of code.

Key Annotations:

- `@Test`: Marks a method as a test case.
- `@Before`: Runs before each test.
- `@After`: Runs after each test.
- `@BeforeClass`: Runs once before all tests.
- `@AfterClass`: Runs once after all tests.

Common Assertions:

- `assertEquals(expected, actual)`
- `assertTrue(condition)`
- `assertFalse(condition)`
- `assertNull(object)`
- `assertNotNull(object)`
- `assertThrows(Exception.class, () -> ...)`

Example Test Class:

```
public class Calculator {  
    public int add(int a, int b) { return a + b; }  
}
```

```
import org.junit.Test;
```

```
import static org.junit.Assert.*;
```

```
public class CalculatorTest {  
    @Test  
    public void testAdd() {  
        Calculator calc = new Calculator();  
        assertEquals(5, calc.add(2, 3));  
    }  
}
```

}

Running JUnit Tests in IntelliJ:

1. Right-click on the test file or method.
2. Click "Run..." to execute the test.
3. Green = Pass, Red = Fail

Tips for Lab Exam:

- Know how to import JUnit and write test classes.
- Be able to test methods and check outputs using assertEquals.
- Understand how to test for exceptions using @Test(expected = ...).
- Make sure your project includes JUnit library.