Date

Expt. No. 02.

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AIM: Test Driven Development Using Junit.

Junit is a popular open-source unit testing framework for java programming language. It is Specially design to support and simplity the writing and running of unit tests - small isolated tests that validate units (Method, functions or classes) and source code.

Key features:

01. Annotations: It uses annotations (@test, @before, @after, @before class, @after class) to mark test method and setup for fixture.

02. Assertions: It offers a rich set of assertion method (like assertEquals, assertTrue, assertNull, assertThrow) to verify expected outcome and conditions in the code being tested.

03. Test Runner: Junit provides test runner to execute test and generate test result.

04. Test Suites: Allows grouping of multiple test case into test suites to run them collectivelly.

05. Parametrised tests: Support parametrised test to run the same test with different input values.

Teacher's Signature :

- Write a Failing Test:
  Identify a Small unit of functionality (a method or a Specific behaviour) Write a test case describe the Expected behaviour. this test will initially Fail as the functionality doesn't exist yet.

02. Run the Test (and watch it fail): Execute the test, As expected it should Fail because the functionality Hasn't been implemented.

03. Write the Minimum Code require to Pass: implement the minimal code require to make the Falling test Pass. On Making the test pass without worrying about optimisation or additional features.

04. Run the Test (and Watch it Pass): Execute the test origin this time it should Pass Since the implementati code meets the test criteria.

05. Repeat the Code: Identifying the next Piece of functionality or Behaviour to implement and Write another test for it.

Source Code:

```
import org.Junit.test;
import org.Junit.Assert;

public class testing {
```

```
public int Mulnumbers(int a ,int b) {
      return a * b;
 }
@test
  public void test Mulnumbers()
    {
      int a=5;
       int b=2;
       int Expected=10;
        int actual = MulNumbers(a,b);
         Assert.assertEquals(Expected, actual);
    }
 }
```

Teacher's Signature :