

Ans: Test driven Development using JUnit

JUnit:- JUnit is a popular unit testing framework for Java programmers. It provides a set of tools and annotations that make it easy to write and run tests for individual unit of code, such as classes and methods.

Writing test cases:-

1. Developers write test cases using JUnit annotations like @Test. These annotations tell JUnit which methods to run as tests.

2. Inside the test cases, developers use assertion methods like assertEquals to compare the actual output of the code with the expected output.

Benefits of using JUnit:-

- Catch bugs early
- Write better code
- Improve code coverage
- Automate testing.

Unit Testing:- Unit testing is a software testing technique where individuals units of code are tested in isolation to ensure they work as intended.

Steps to follow:-

- (1) Make a separate folder for code testing
- (2) Open that folder using Vscode.
- (3) install "^{Test Runner for} ~~java test~~ java" extension in Vscode.
- (4) In the testing tab Select java test.
- (5) Now select junit.
- (6) Put the code in code editor ~~and~~ workspace.
- (7) Run the test.

Code:-

```
import java.util.*;  
import java.util.*.Assert;  
public class exp4  
{  
    public int add Add(int a, int b) {  
        return a+b;  
    }  
    @Test  
    public void test() {  
        int a=5;  
        int b=10;  
        int expected=15;  
        int actual=add(10,5);  
        Assert.assertEquals("Expected, actual");  
    }  
}
```