

Ex No: 11

Unit Testing

Aim: To write a simple java program and perform unit testing.

Procedure:

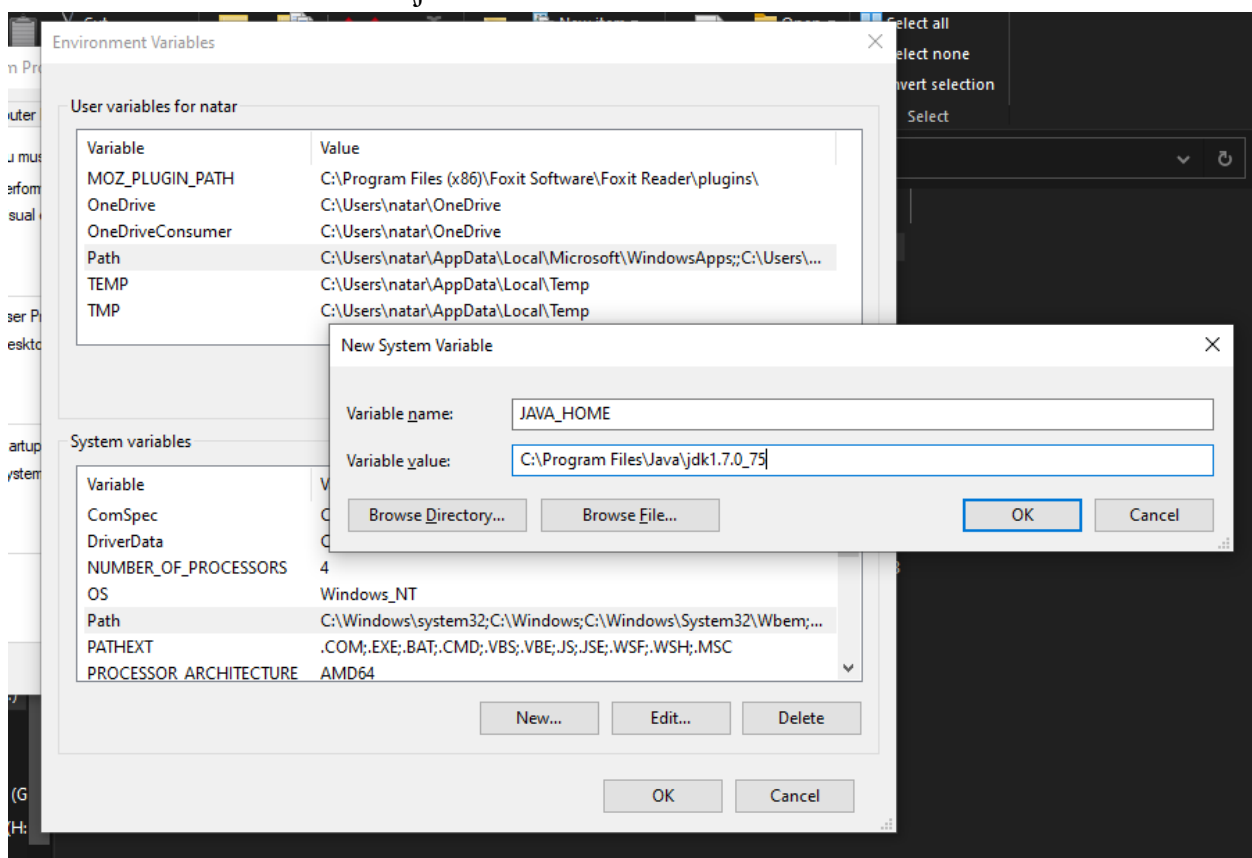
Unit Testing is a type of software testing where individual units or components of a software are tested. The purpose is to validate that each unit of the software code performs as expected.

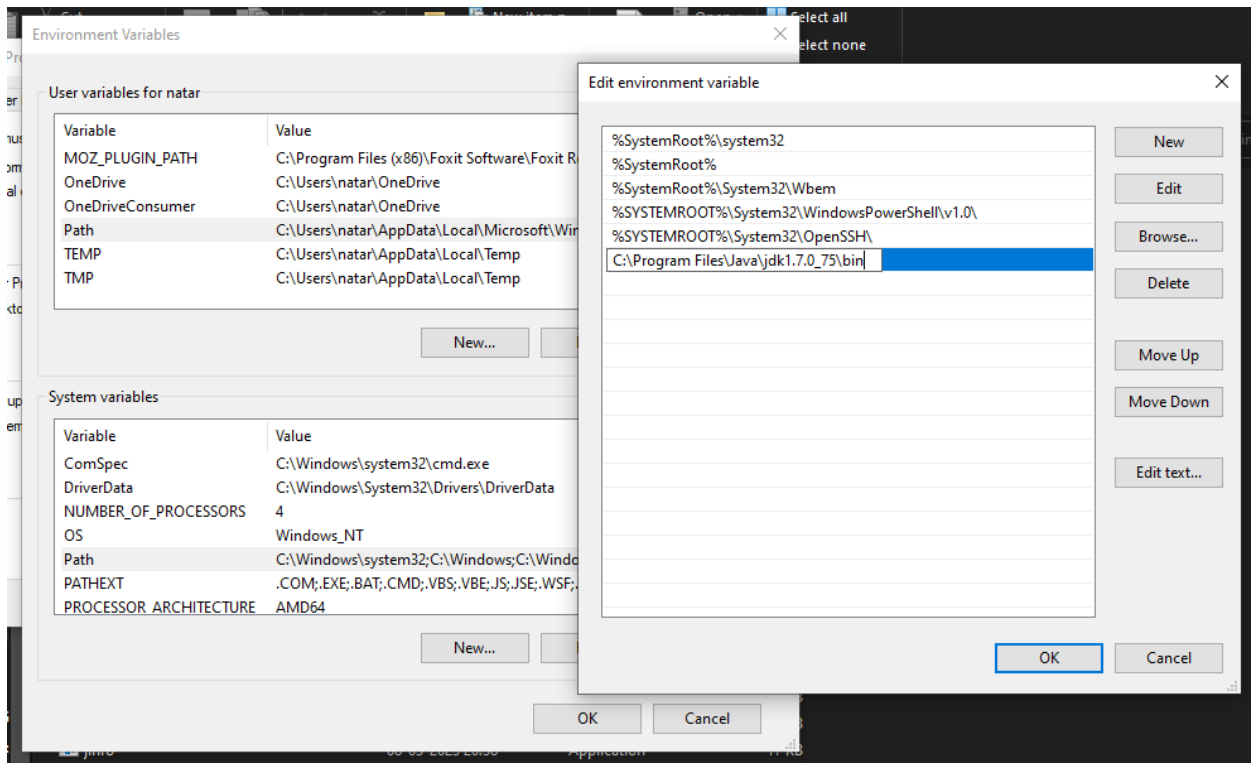
JUNIT

It is an open source unit testing framework for JAVA. It is useful for Java Developers to write and run repeatable tests. Erich Gamma and Kent Beck initially develop it.

JUNIT Installation

- Install JAVA
- Create “JAVA_HOME” environment variable that points to the java installation folder
- Add Java Compiler path to “System Path”
- Download junit-4.10.jar file
- Store it in the folder “c:\junit”

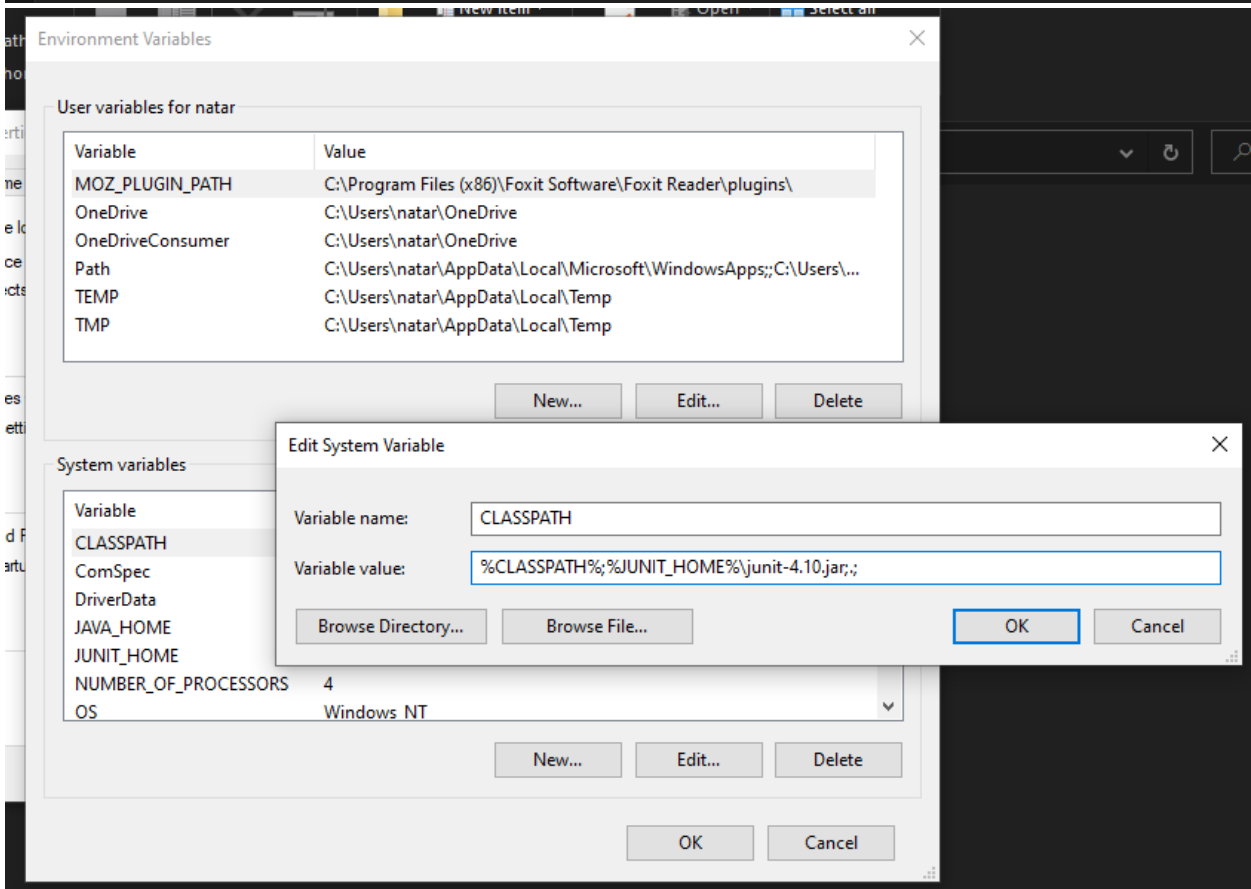
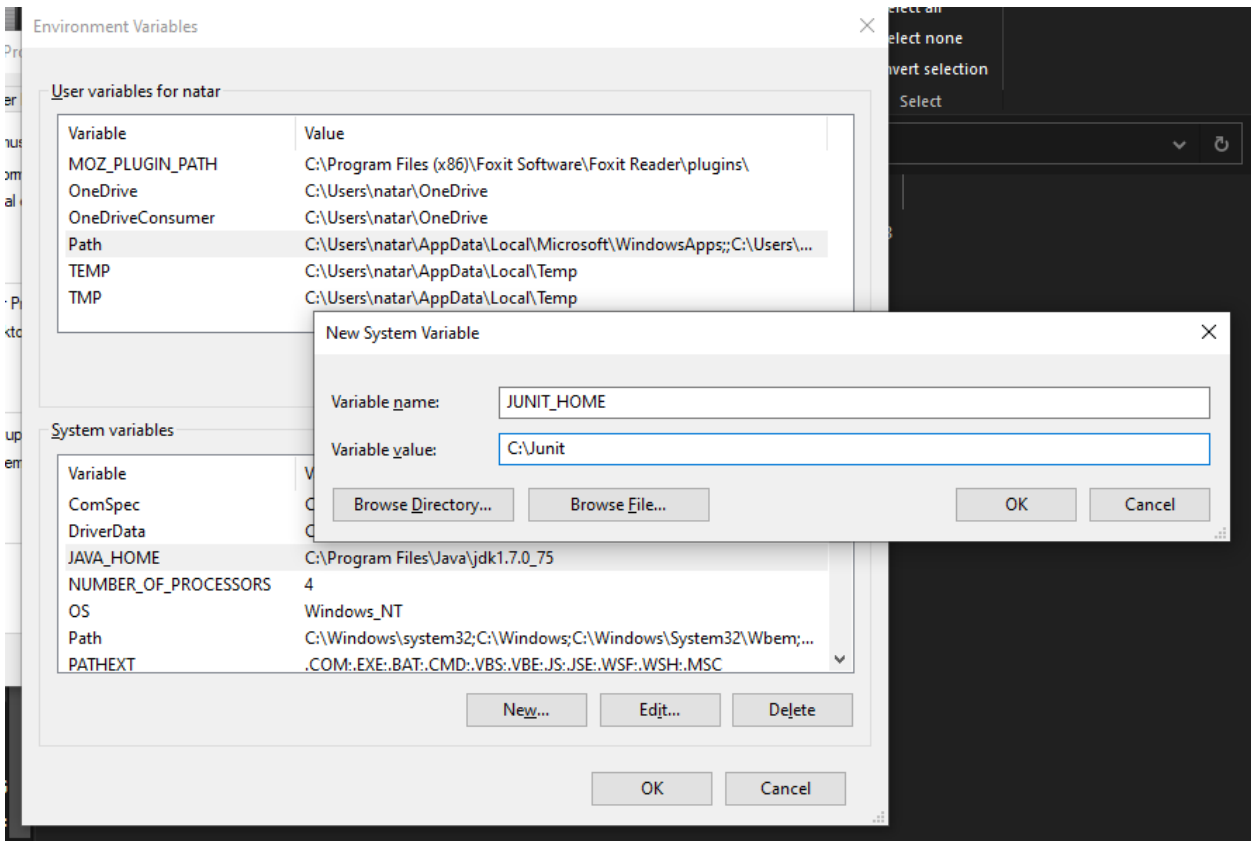




JUNIT Environment Setup

- Create 'JUNIT_HOME' environment variable to point to the location where "junit-4.10" is stored.
- Create "CLASSPATH" variable that contain the given value

`%CLASSPATH%;%JUNIT_HOME%\JUnit4.10.jar;.`



Testing the Code

- Use Test, Assert and Test Runner of Junit framework is used.
- Implement Test and Assert class in the source code that is to be tested.
- Add test case using '@Test' directive
- Use 'assertEquals()' method to test a function
- Implement runner class in the code that runs the test.
- Use 'runClasses' method to execute the code
- Using returned value from 'runClasses' method get number of test runs and number of test failures

Result:

Thus Unit Testing is performed on a Java Program using JUNIT and the results are successfully verified.