Python/Java Based File System Test Framework

We need to build a test framework to test a specific file system implementation. This involves testing and validating file system operations like read, write, seek, link, unlink etc. These operations or set of operations will represent a test case in the system. The framework will facilitate defining test cases, executing them on a given mount point and provide test results/reports.

**Problem:**

Given a mount point, representing a file system to be tested. Write a test framework which will do the following:

1. Provide a driver script which reads set of operations and executes them as a test case over the mount point.
2. An operations file containing set of operations will represent a test case. This file should have a ".tc" extension. Use the format of your choice to represent the operations. Parse and execute it using the driver script.
3. Apart from test case files (.tc files), a mount point and a directory containing data files/directories will be input to the framework.
4. Run the test cases in .tc file using the test directory, collect the test results and generate report.

**Example:**

Test Mount point → /mnt/testfs

Test Dir → /mytestdata

Test Cases (.tc files) :

1. cptest.tc → copy /mytestdata/backup/f1.tar.gz /mnt/testfs
2. read.tc → read /mnt/testfs/code/src/list.c 250 bytes from offset 100
3. stat.tc → stat /mnt/testfs/mydir/sample.txt
4. filemode.tc → copy /mytestdata/scripts/hello.sh /testfs/hello.sh;chmod +x /testfs/hello.sh;

**Note:**

1. To simplify the problem you can support limited number of operations (ex: copy, cat)
2. You can provide validation checks in .tc files (expected results)
3. You can bind validation checks with the operations you support (ex: copy command validation will be cksum check on source and destination)