Test Tool

Use unnamed pipe to implement a simple test tool in C. It takes two arguments from command line

- an executable file in Java which is a *program under test*
- a test file for the *program under test*

It automatically feeds the *program under test* with the input given in the test file and checks whether the actual output conforms to the expected one.

Assume that the *program under test* gets several lines of input using System.in and then gives one line of output using System.out.

The test file has tests separated by a line with a #. Each test contains several input lines followed by an output line separated by a line with a *.

The test tool should report, using standard output, how the *program under test* passes the tests. See the sample run.

For each test, the *program under test* is restarted, but the test tool runs for all tests in the test file without termination.

Sample *program under test*: ProgramA.class and ProgramB.class. Sample test files: testA.txt and testB.txt.

Sample run:

```
>>>>> ls
ProgramA.class   ProgramB.class   testA.txt
testB.txt        testtool.c
>>>>> cat testA.txt
23
35
*
58
#
50
50
*
100
#
>>>>> cat testB.txt
Programming is fun!
*
19
#
Exams are your best friends!
*
28
#
>>>>> 
```

```
>>>>> java ProgramA
23
35
58
>>>>> java ProgramA
50
50
10
>>>>> java ProgramB
Programming is fun!
19
>>>>> java ProgramB
Exams are your best friends!
28
>>>>> cc testtool.c -o testtool
>>>>> ./testtool ProgramA testA.txt
test 1: pass
test 2: fail
total passes: 1
total fails: 1
>>>>> ./testtool ProgramB testB.txt
test 1: pass
test 2: pass
total passes: 2
total fails: 0
>>>>>
```