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# TEST CASES

**TEST CASE 1**: Invoking “Custom Shell” from Ash Shell

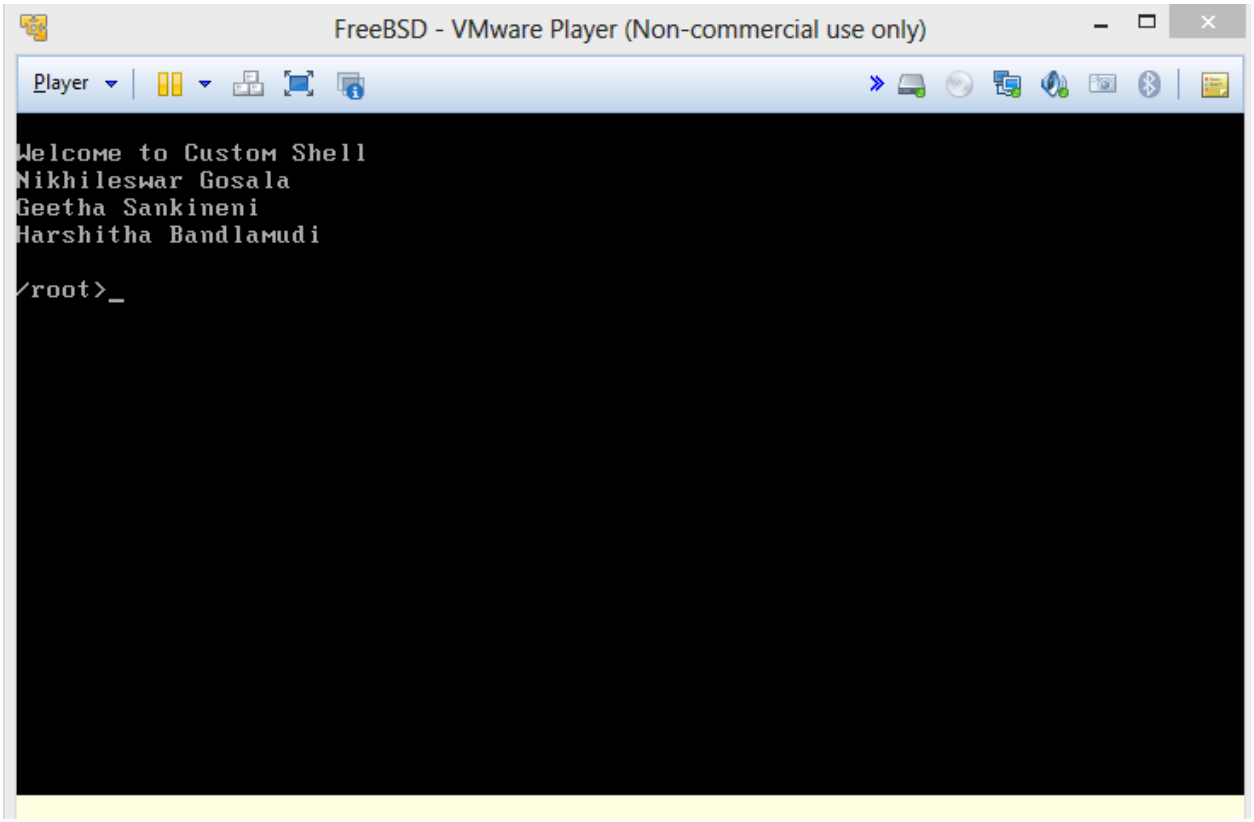
**Input:** Invoke the shell using “sh Minixshell.sh”

**Expected Result:** Custom Shell should start

**Actual Result:** Custom Shell should start

**Result**: Pass

**Screen Shot:**



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**TEST CASE 2:** To read the path / home variables from the environment and print it

**Input:**

Case 1: echo $PATH

Case 2: echo $HOME

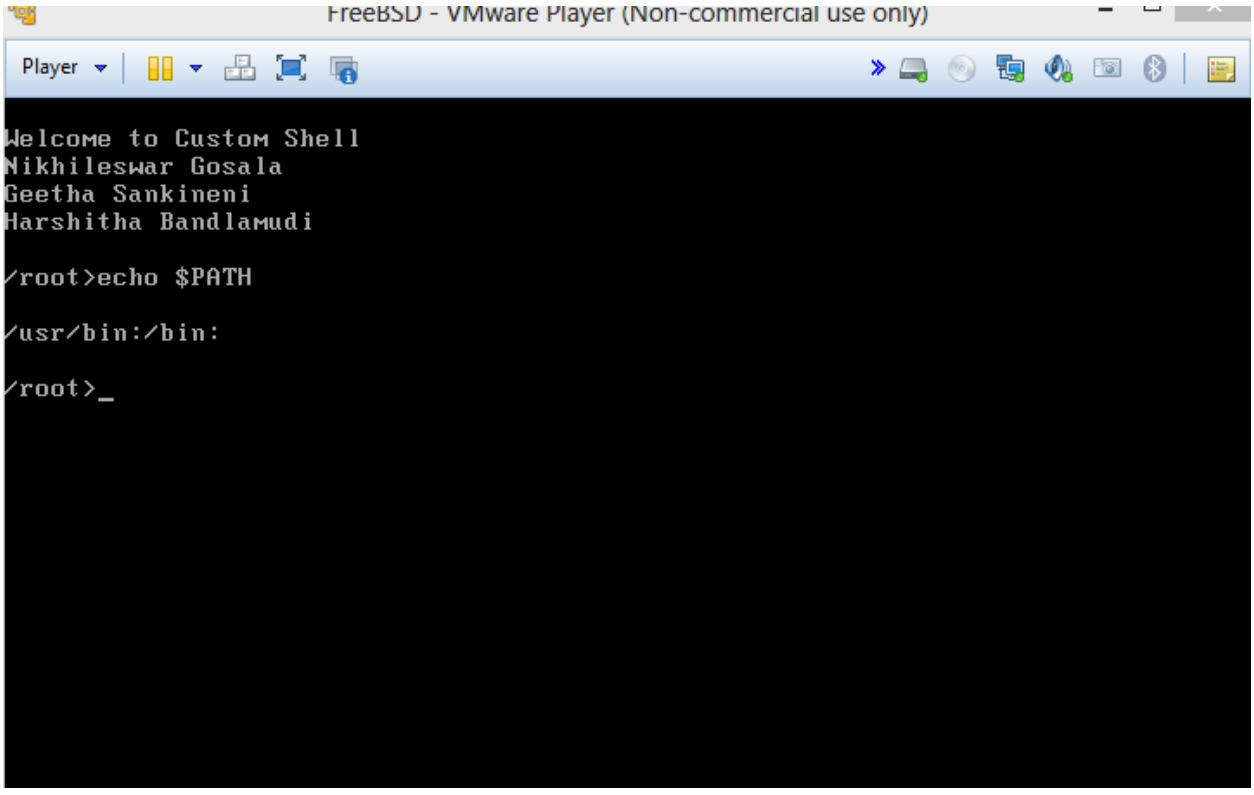
**Expected Result**: Displays the PATH/HOME value

**Actual Result:** PATH/HOME value displayed

**Result:** Pass

**Screen Shot:**

**Case 1:**



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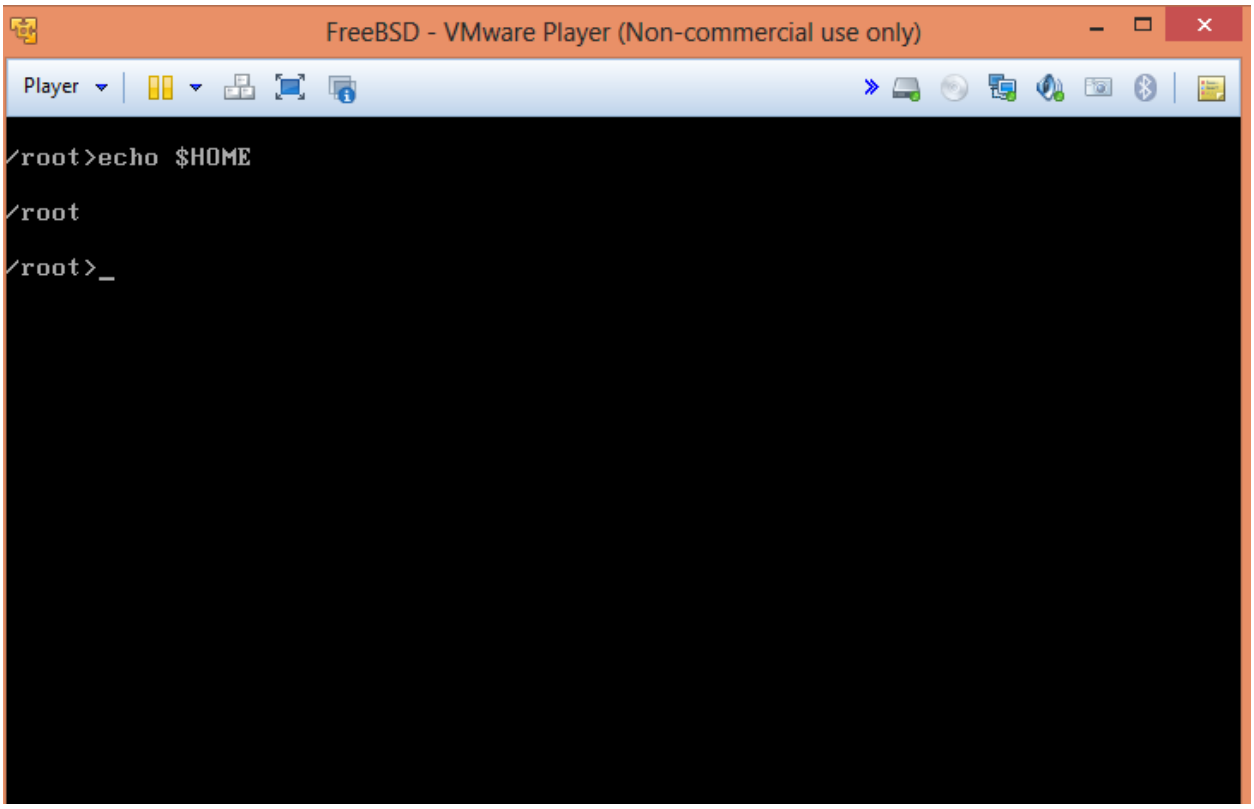
**Case 2:**




**TEST CASE3:** To verify if the prompt is displaying the current directory name

**Input:** cd osdi

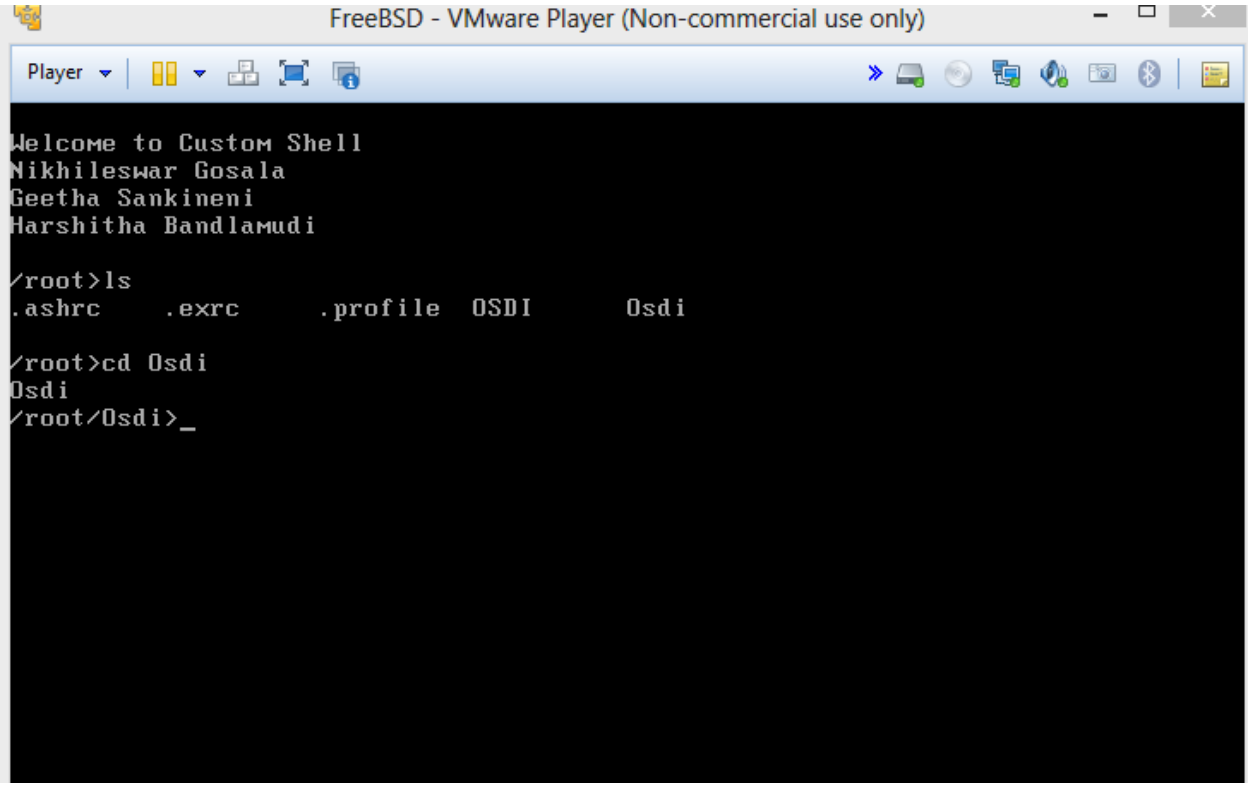
**Expected Result:** Prompt should display the current directory name

**Actual Result:** Displays the current directory name

**Result:** Pass

**Screen Shot:**

iles




**TEST CASE 4:** Customized Shell should be able to execute the utilities defined in /bin and /usr/bin
**Input:** Command “ls”
**Expected Result:** Displays list of files in the current directory
**Actual Result:** Displays list of files in the current directory
**Result:** Pass
**Screen Shot:**

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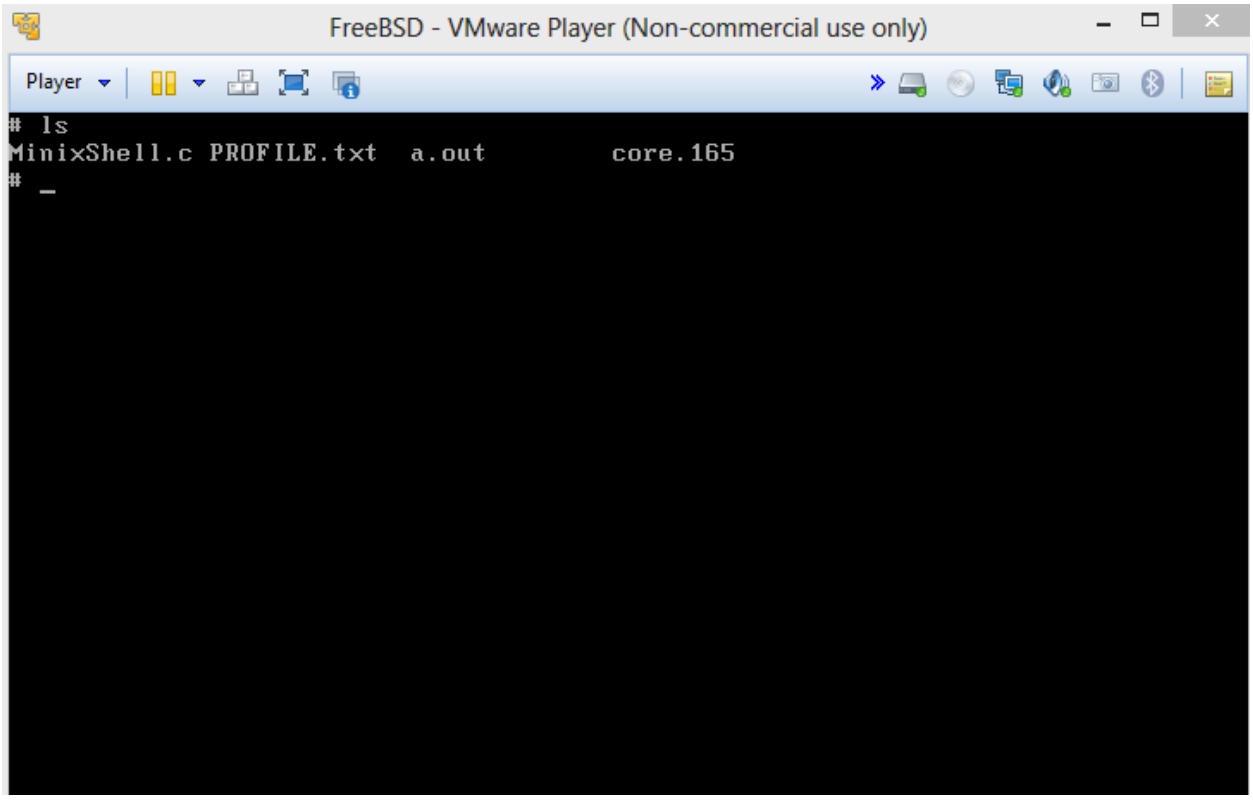


**TEST CASE 5:** To list the total files in the directory and subdirectories, the names of the files in the current directory, their permissions, the number of subdirectories in directories listed, the size of the file, and the date of last modification.
**Input:** "ls –l"
**Expected result:** Display list of files in present directory with details
**Actual result:** Display list of files in present directory with details
**Result:** Pass

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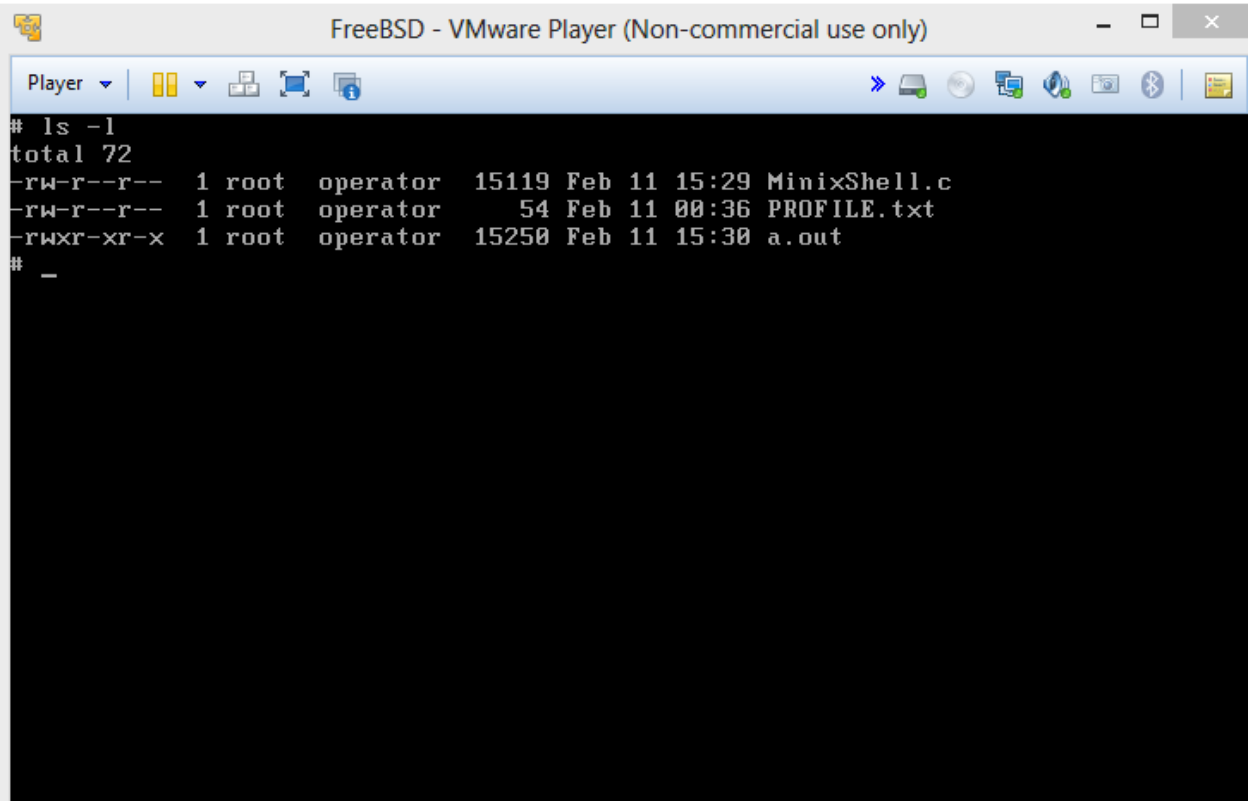
**Screen Shot:**




**TEST CASE 6:** To test the implementation of Indirection  Operator

**Input:** ls –l=>file1.txt

**Expected Result:** Redirects the output to the file named file1.

**Actual Result:** Redirects the output to the file named file1.

**Result:** Pass

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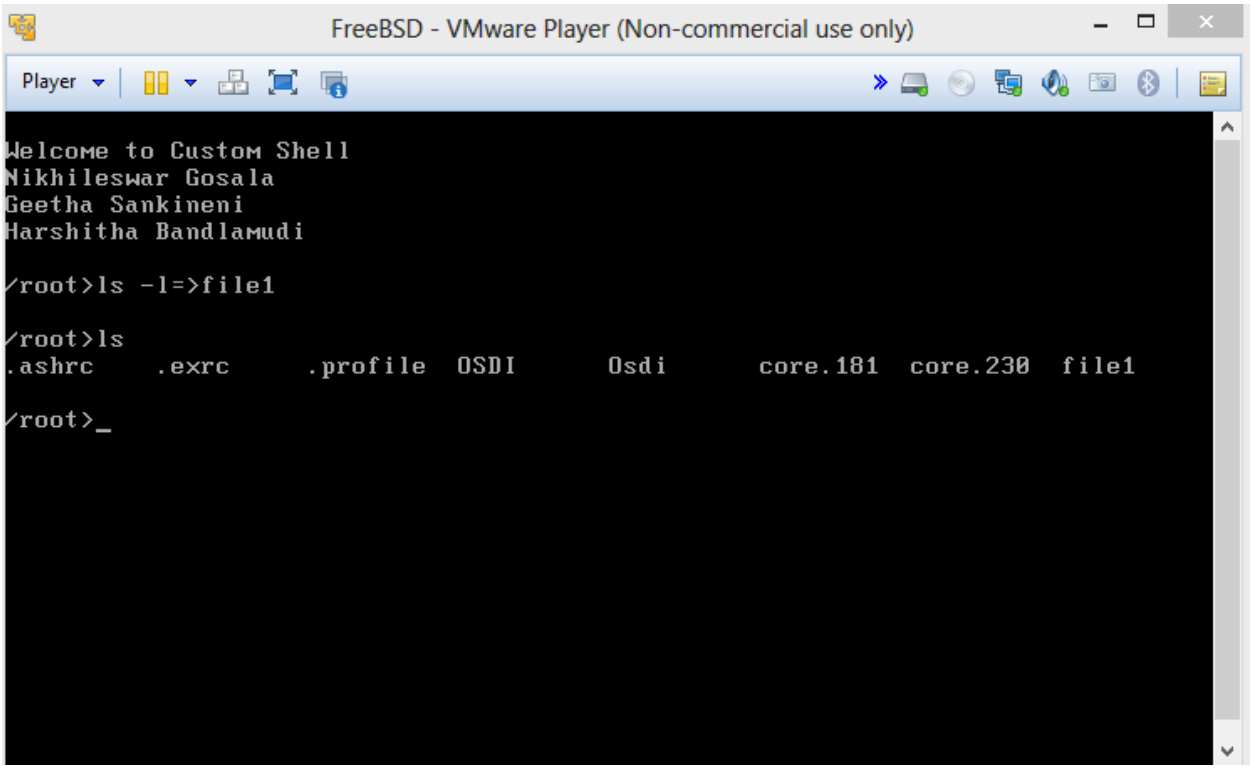
**Screenshot:**




**TEST CASE 7:** Termination of shell using Ctrl + C / Exit

**Input:** Case1: Ctrl + C

Case2:Exit

**Expected Result:** Closes the shell

**Actual Result:** Closes the shell

**Result:** Pass

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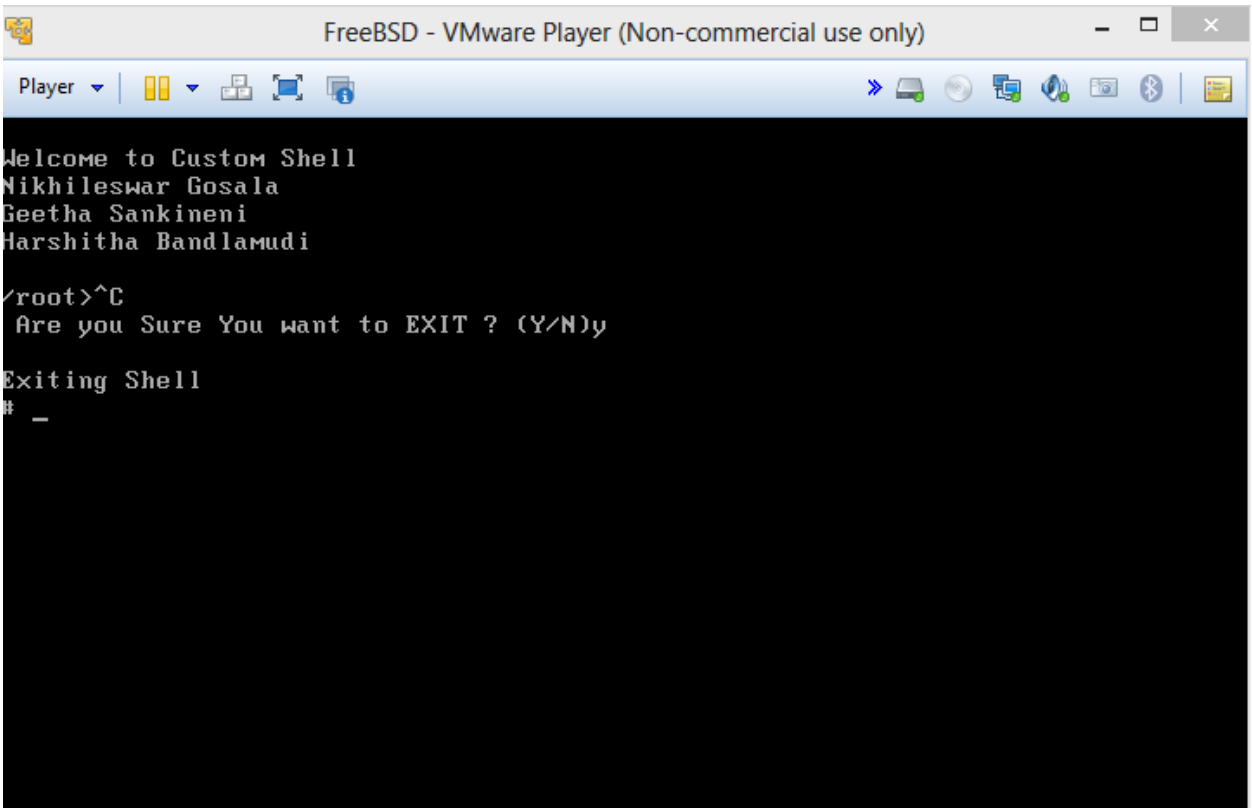
**Screen Shot:**

Case 1:



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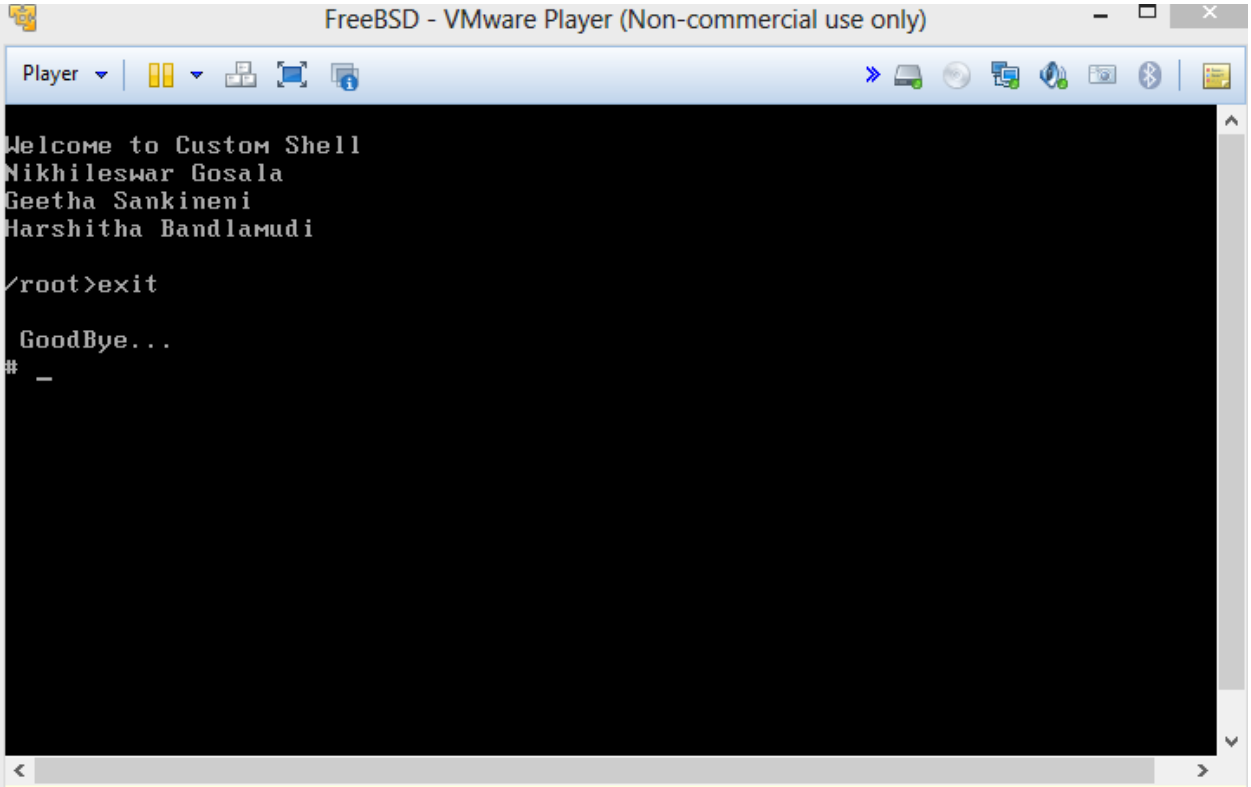
Case 2:




**TEST CASE 8:** To display the current date

**Input:** date

**Expected result:** Displays the current date

**Actual result:** Displays the current date

**Result:** Pass

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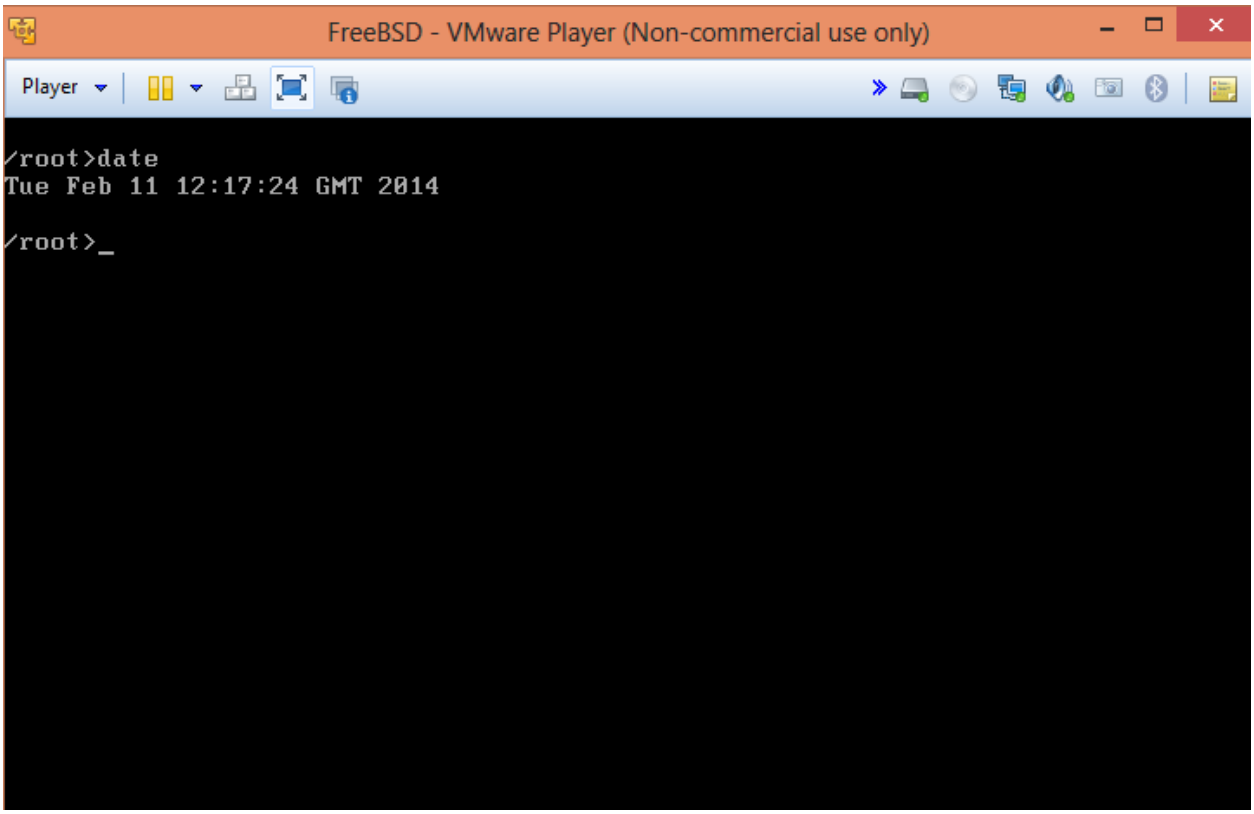
**Screen Shot:**




**TEST CASE 10:** To search the occurrence of include in the file

**Input**: grep –l include *.c

**Expected Result :** Displays any file which has include in it

**Actual Result:** Displays the file which has include in it.

**Result:** Pass

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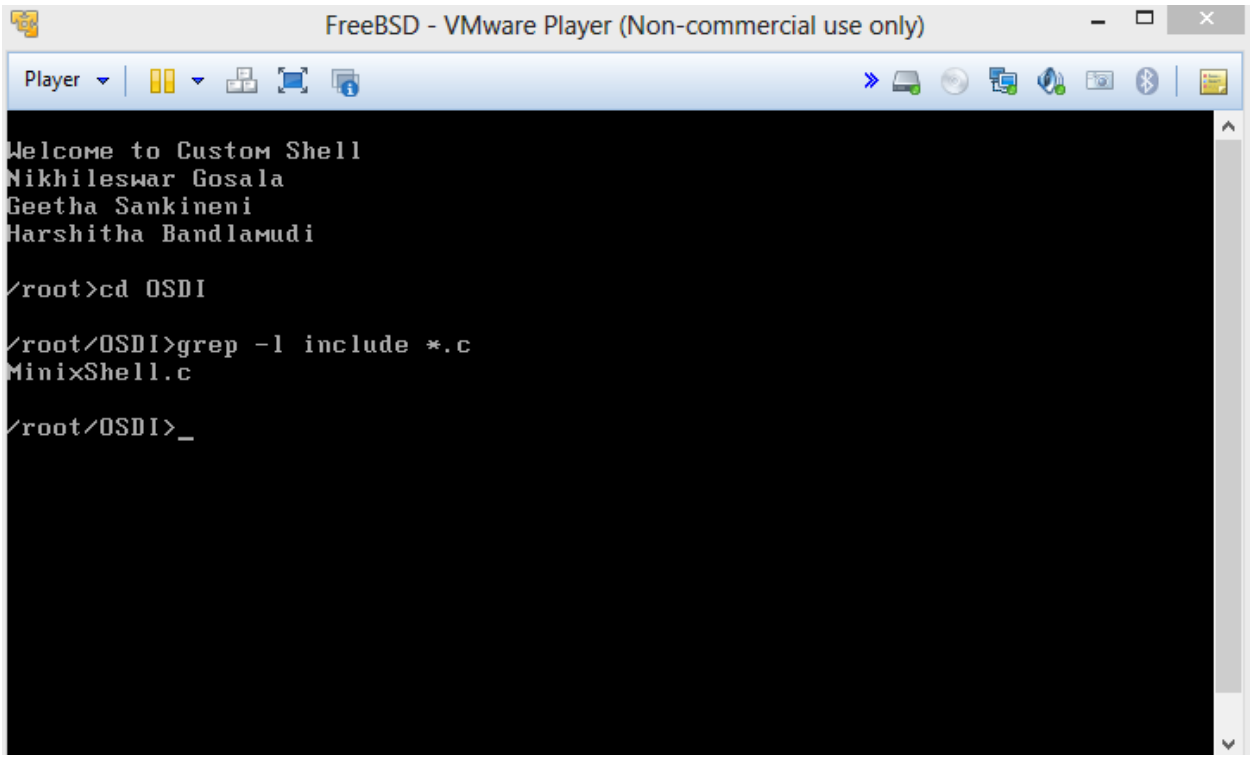
**ScreenShot:**




**TEST CASE 10:** To implement the facility that allows the input of one command to be run and output to be pasted back as input to another command

**Input:** $wc $ fgrep –l include MinixShell.c

**Expected Result:** Output of one command should be given as input of another command

**Actual Result:** Output of one command is given as input of another command

**Result:** Pass

**Screen Shot:**

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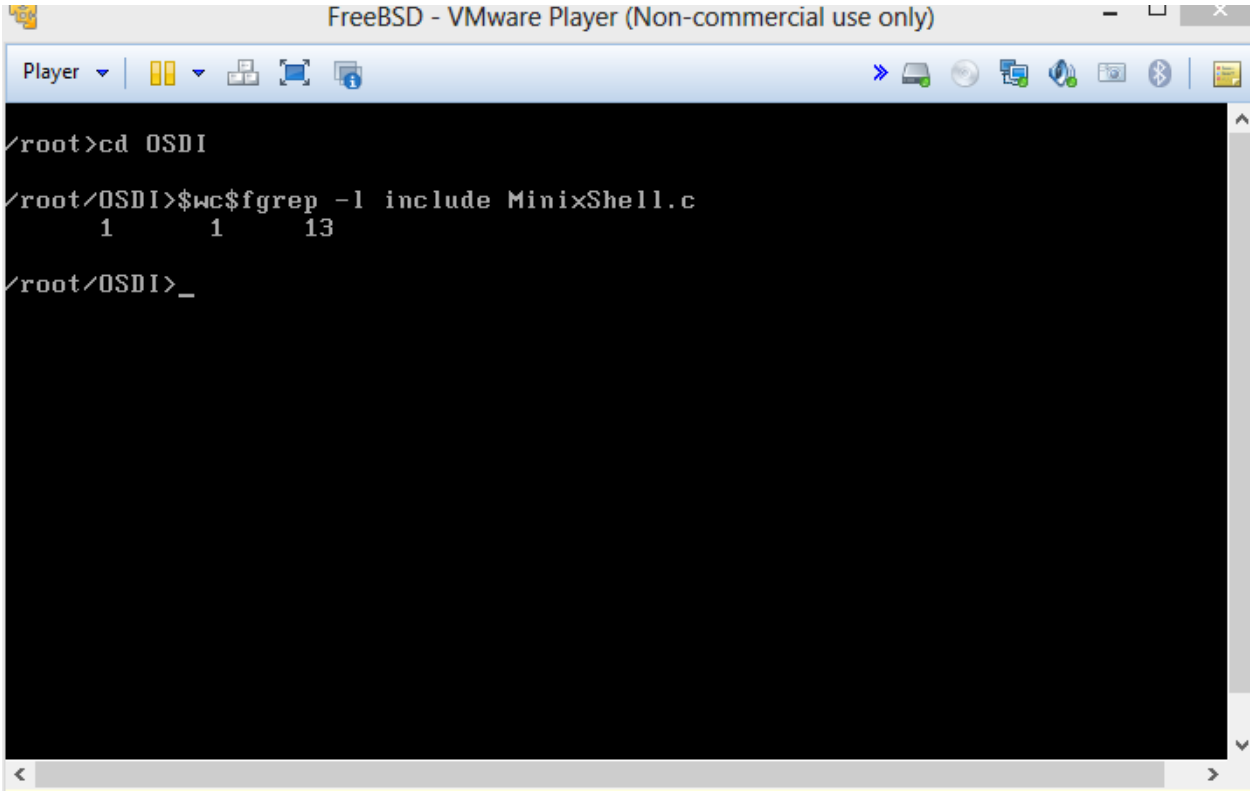


**TEST CASE 11:** Output of one command is given as input of another command so that it will display the number of users who logon to system

**Input:** $wc –l $ who

**Expected Result:** Displays the number of users who logon to system

**Actual Result:** Displays the number of users who logon to system

**Result:** Pass

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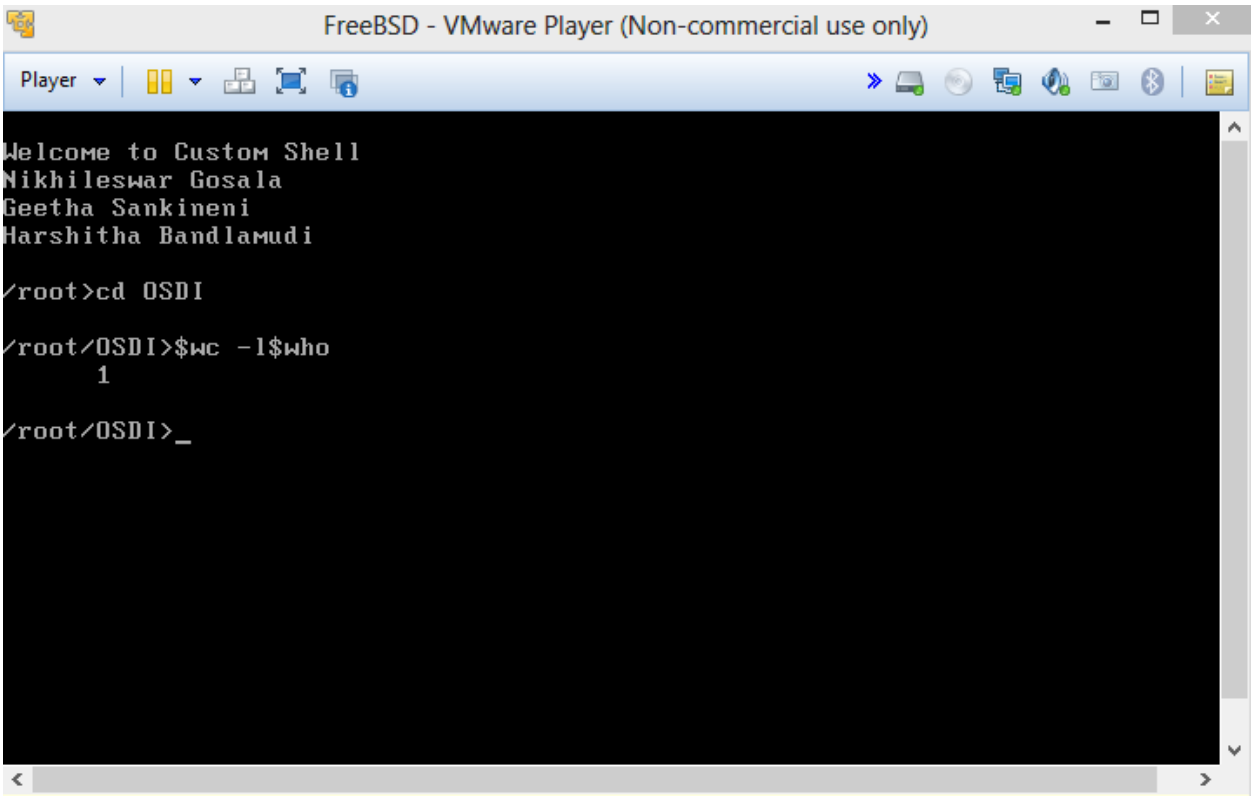
**Screen Shot:**




**TEST CASE 12:** Output of one command is given as input of another command so that it prints number of files in the current directory

**Input:** $wc –l $ ls –l

**Expected Result:** Displays number of files in the current directory

**Actual Result:** Displays number of files in the current directory

**Result:** Pass

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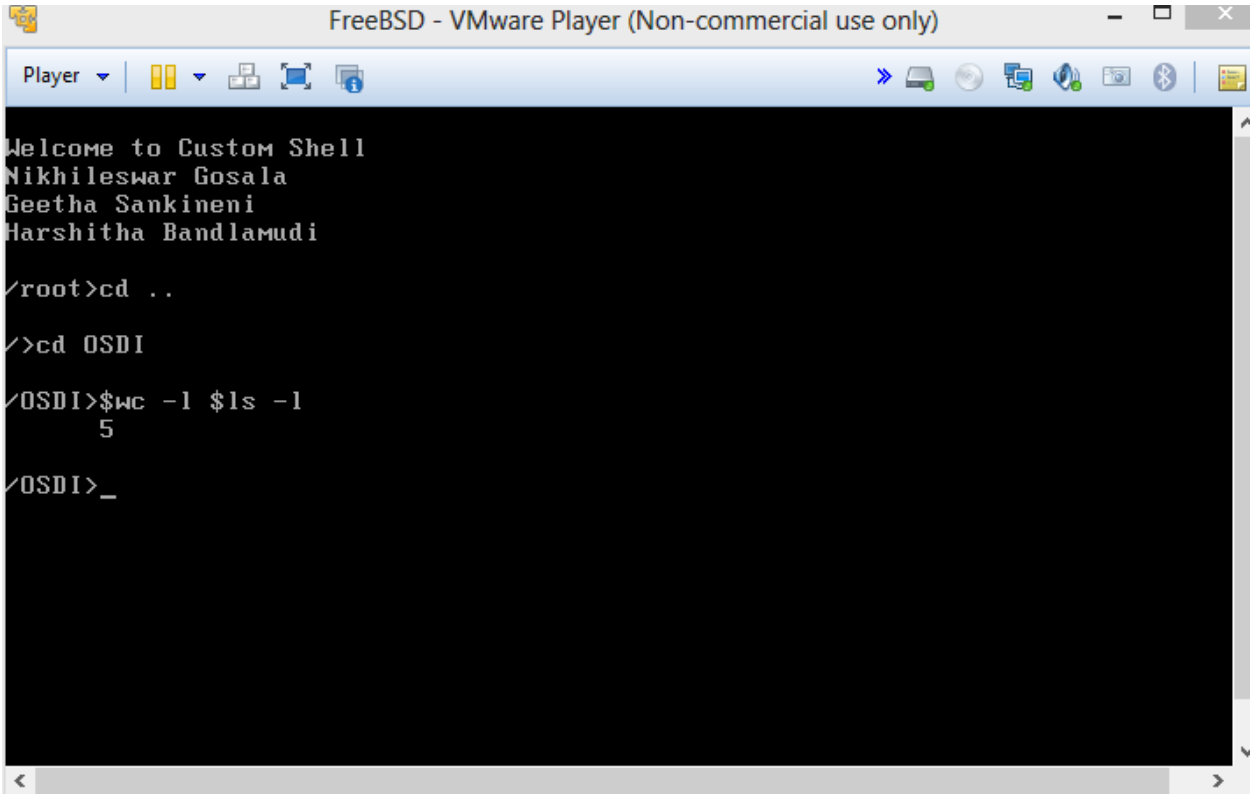
**Screen Shot:**




**TEST CASE 13:** Implementation of nested piping with support to unlimited pipes

**Input:** "$ grep shell.sh $ grep –v grep $ ps –ef"

**Expected Result:** Nested pipe is implemented

**Actual Result:** Nested pipe is implemented

**Result:** Pass

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**Screen Shot:**

```
-o rw,rslabel=devman
 W   0    77     4     0    144                ?  0:00 /usr/sbin/log
 W  12    89     4     0    120          ANY   ?  0:35 /usr/sbin/random
 W  12   104     4     0   1112          ANY   ?  0:00 /usr/sbin/e1000 instance=
0
 W  12   108     4     0   1052          ANY   ?  0:00 /usr/sbin/inet
 W  12   111     4     0     84          ANY   ?  0:00 /usr/sbin/printer
 W   0   114     4     0    748          ANY   ?  0:00 /usr/sbin/ipc
 R   0    83     1     1    220                ?  3:52 devmand -d /etc/devmand -
d /usr/pkg/etc/devmand
 S   0   118     1     1    184 (select) vfs   ?  0:00 update
 S   0   120     1     1    328 (sigsusp) pm   ?  0:00 cron
 S   0   125     1   125    260 (select) vfs   ?  0:00 syslogd
 S   0   128     1     1    364 (select) vfs   ?  0:00 dhcpd
 S   0   130     1     1    348 (select) vfs   ?  0:00 nonamed -L
 S   0   139     1   139   2324 (select) vfs   ?  0:00 /usr/pkg/sbin/sshd
 S   0   140     1   140    680    (wait) pm  co  0:00 -sh
 S   0   141     1   141    200    (tty) vfs  c1  0:00 getty
 S   0   142     1   142    200    (tty) vfs  c2  0:00 getty
 S   0   143     1   143    200    (tty) vfs  c3  0:00 getty
 S   0   412   140   140    916   (pipe) vfs  co  0:00 a.out
 S   0   414   412   140    592    (wait) pm  co  0:00 sh -c ps -ef
 W   0   416   414   140    272          vfs  co  0:00 ps -ef
```

**TEST CASE 14:** Implementation of pipe with indirection operator

**Input**: $wc –l=> file2.txt $ ls

cat file2.txt

**Expected Result:** Output of the command is redirected to the file

**Actual Result:** Output of the command is redirected to the file

**Result:** Pass

**Screen Shot:**

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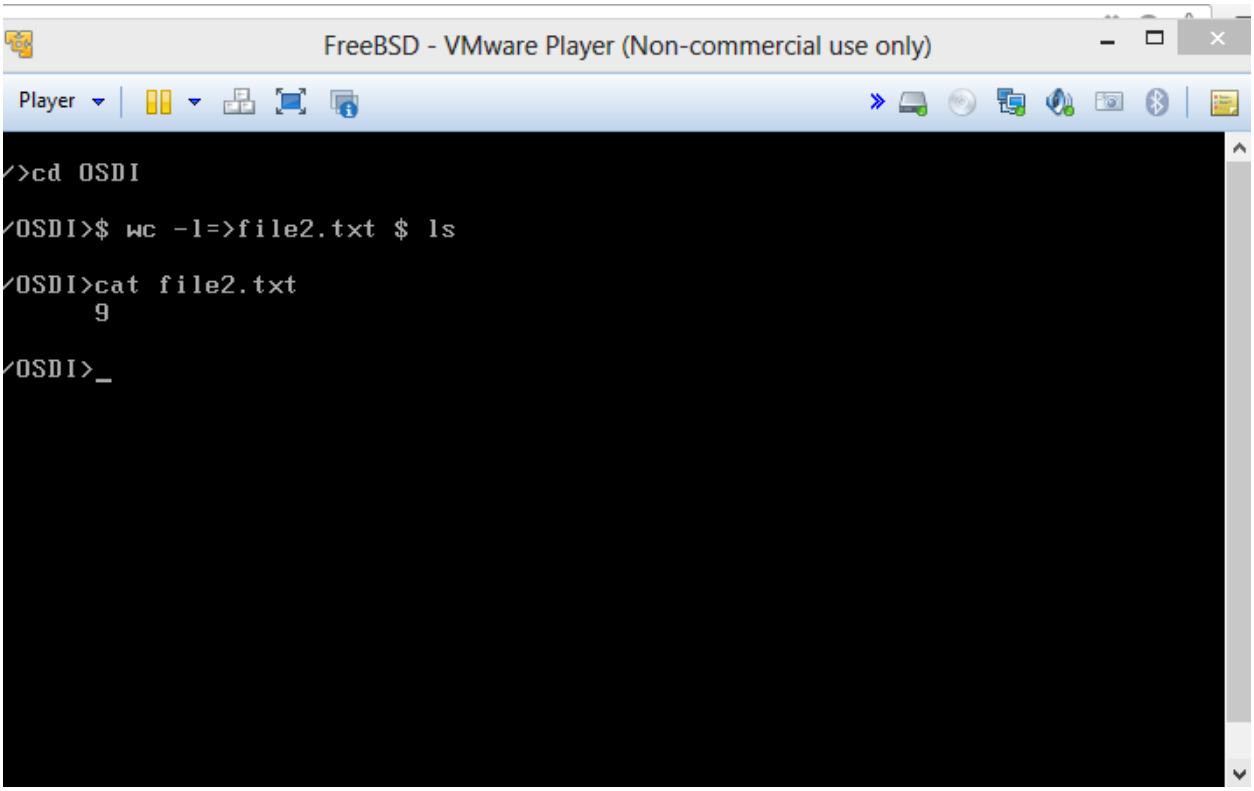


**TEST CASE 15:**Implementation of basic calculator

**Input:**

Case 1: X =10

Y = 15

calc $X + $Y

calc $X +10

calc $10+Y

**Expected Result:** Shell should perform addition of numbers

**Actual Result:** Displays the sum of numbers

**Result:** Pass

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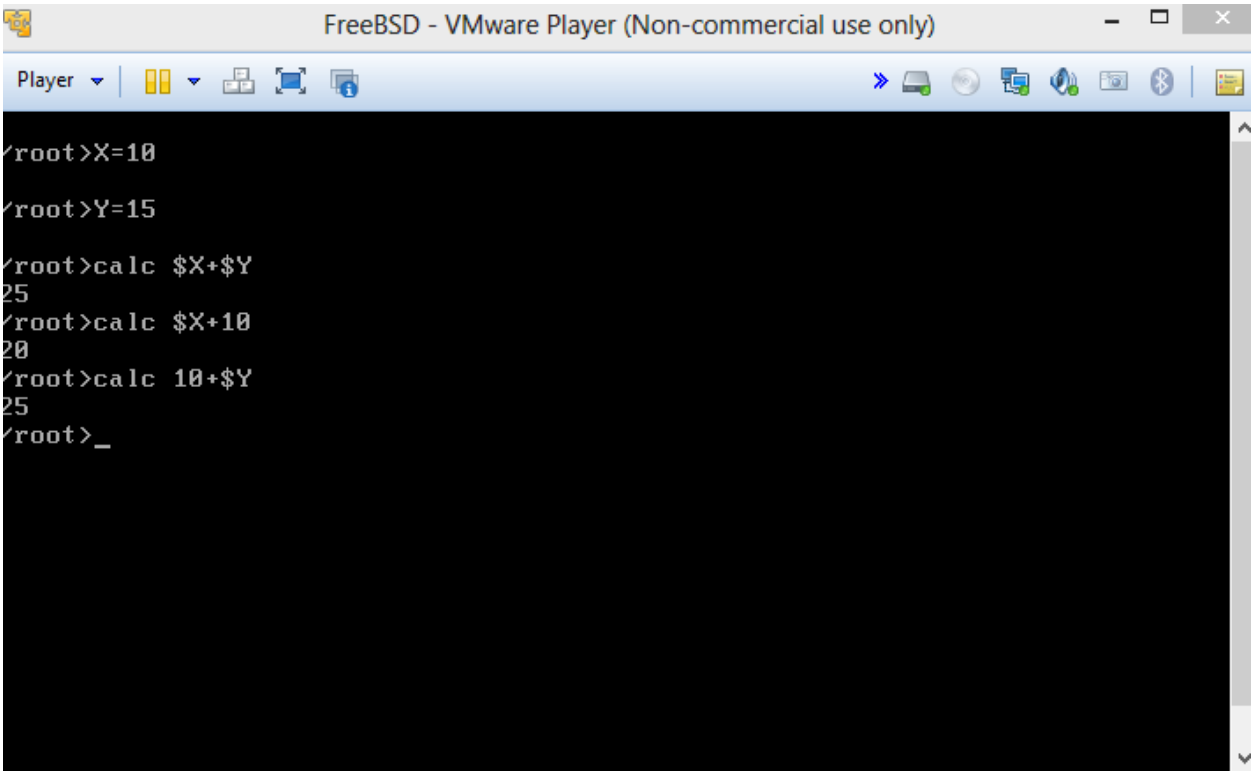
**Screen Shot:**




Case 2:

**Input** :X =20

Y = 15

calc $X - $Y

calc $X -10

calc $30 - Y

**Expected Result:** Shell should perform subtraction of numbers

**Actual Result:** Displays the difference of numbers

**Result:** Pass

**Screen Shot:**

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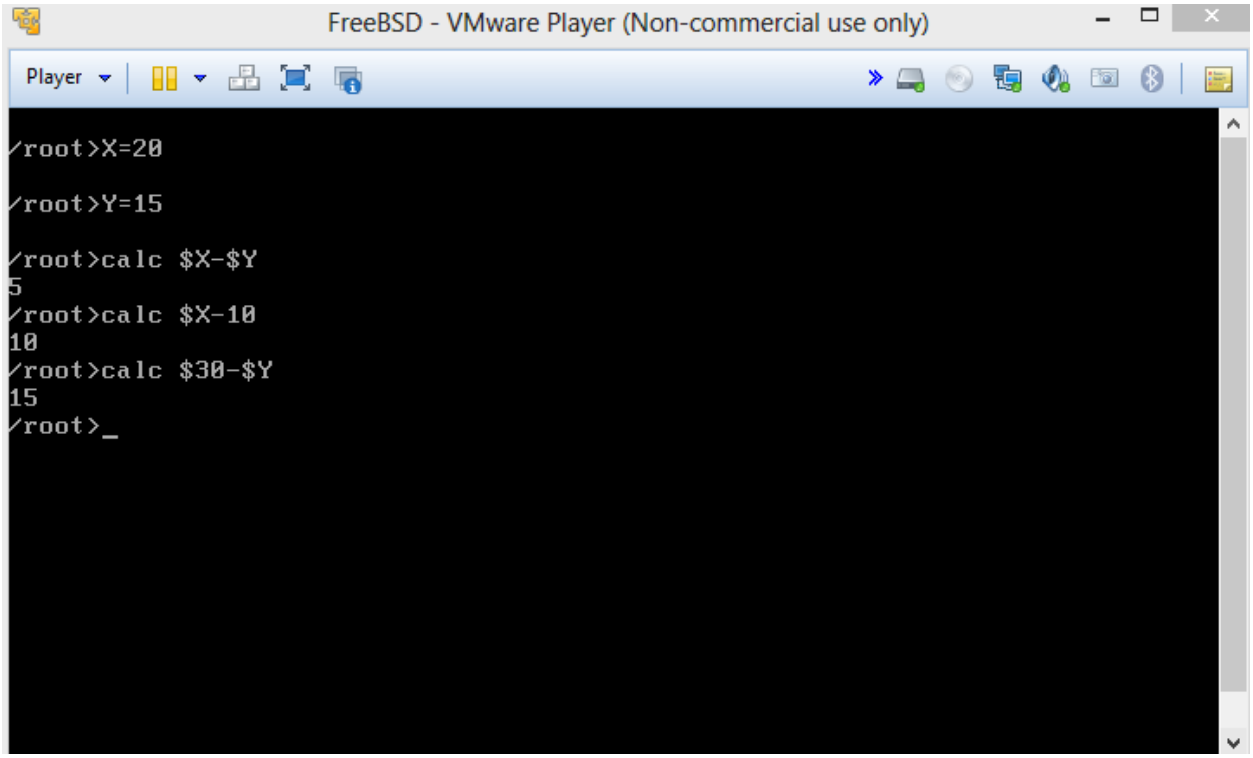


Case 3:

**Input:** X =10

Y = 15

calc $X * $Y

calc $X *10

**Expected Result:** Shell should perform multiplication of numbers

**Actual Result:** Displays the product of numbers

**Result:** Pass

**Screen Shot:**

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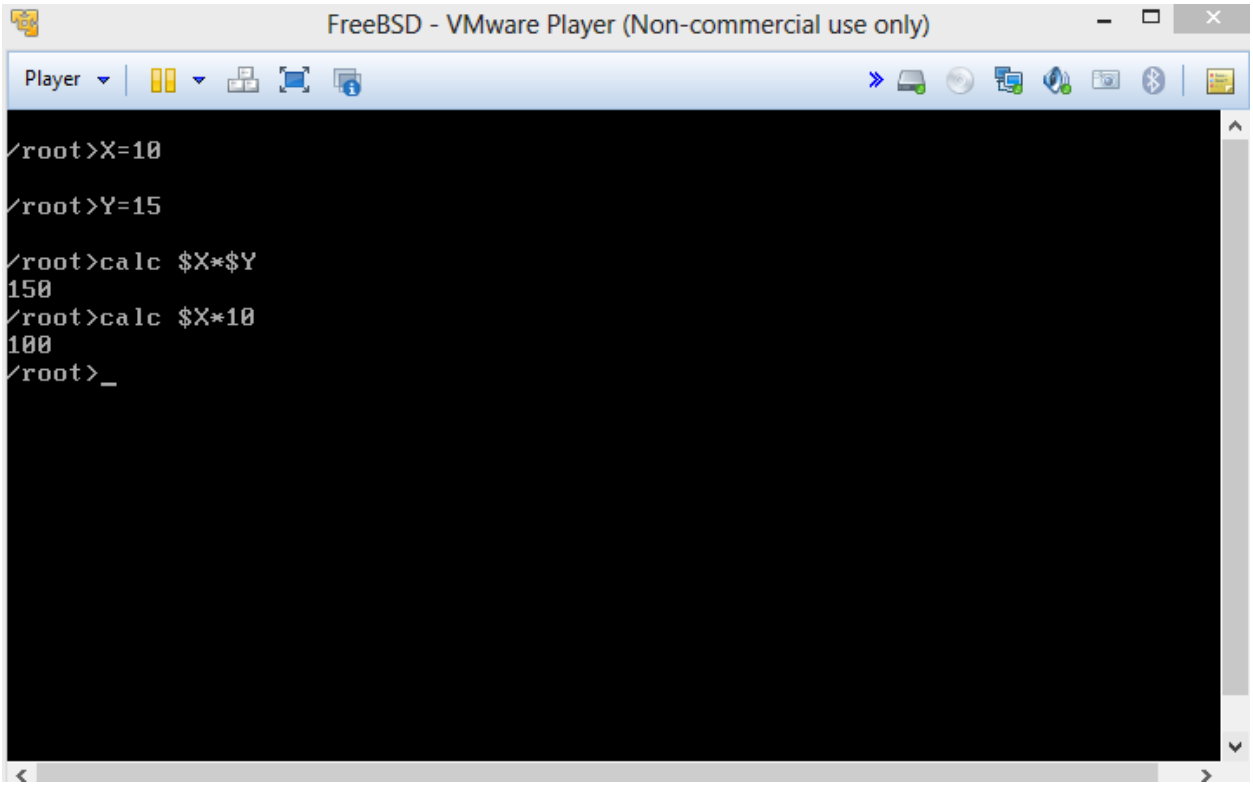


Case 4:

**Input:** X =20

Y = 5

calc $X / $Y

calc $X /10

**Expected Result:** Shell should perform division of numbers

**Actual Result:** Displays the division of numbers

**Result:** Pass

**Screen Shot:**

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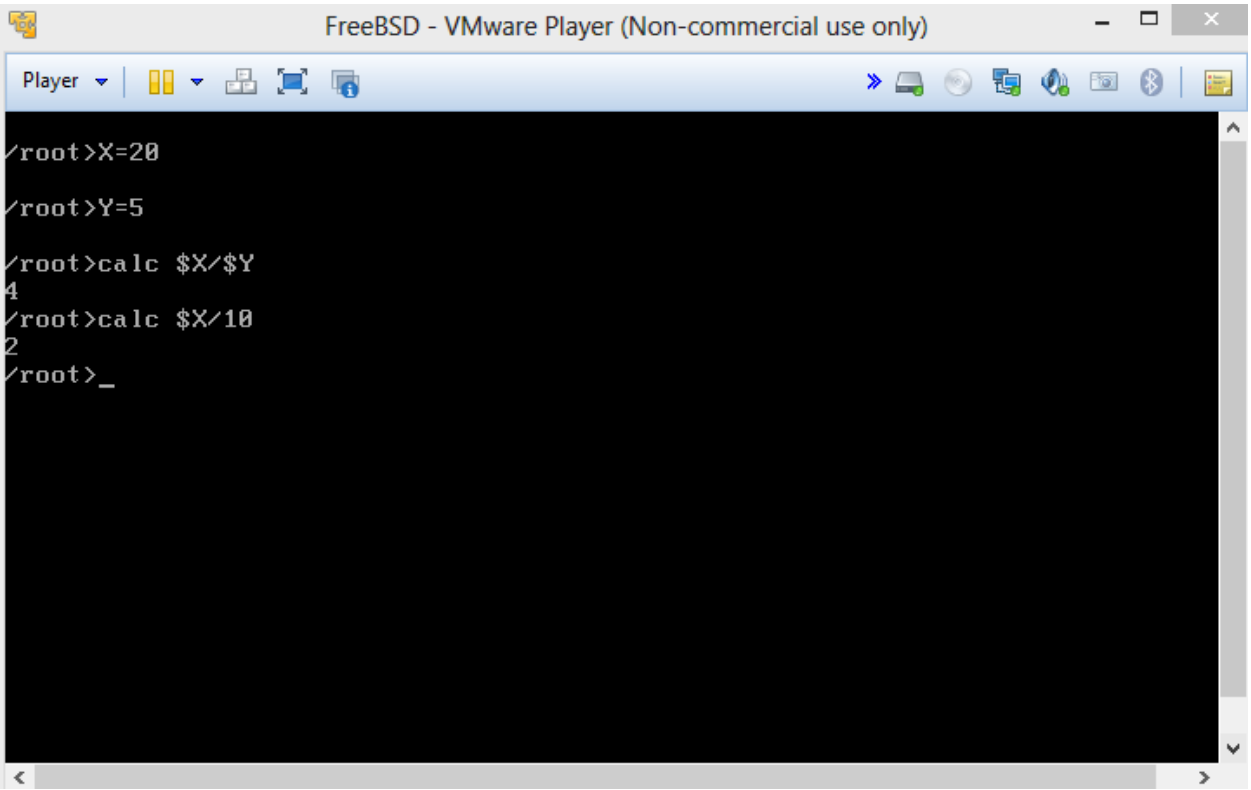


## EXTRACREDIT:

- Calculator can be directly used without another program from the command line using calc
  Eg: calc 5 +4
  calc $X+$Y
- Nested piping works with support to unlimited pipes
  Eg:$ grep shell.sh $ grep -v grep $ ps-ef

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- Environment variables can be set by using “=” operator. They can be read using the same or echo command
  HOME=/usr