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Class :- AIDS/C

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Questions and Answers :

1. Change your password to a password you would like to use for the remainder of the semester.
2. Display the system's date.
3. Count the number of lines in the /etc/passwd file.
4. Find out who else is on the system.
5. Direct the output of the man pages for the date command to a file named mydate.
6. Create a subdirectory called mydir.
7. Move the file mydate into the new subdirectory.
8. Go to the subdirectory mydir and copy the file mydate to a new file called ourdate
9. List the contents of mydir.
10. Do a long listing on the file ourdate and note the permissions.
11. Display the name of the current directory starting from the root.
12. Move the files in the directory mydir back to the HOME directory.
13. List all the files in your HOME directory.
14. Display the first 5 lines of mydate.
15. Display the last 8 lines of mydate.

16. Remove the directory mydir.
17. Redirect the output of the long listing of files to a file named list.
18. Select any 5 capitals of states in India and enter them in a file named capitals1.
Choose 5
more capitals and enter them in a file named capitals2. Choose 5 more capitals and
enter
them in a file named capitals3. Concatenate all 3 files and redirect the output to a
file
named capitals.
19. Concatenate the file capitals2 at the end of file capitals.
20. Redirect the file capitals as an input to the command “wc -l”.
21. Give read and write permissions to all users for the file capitals.
22. Give read permissions only to the owner of the file capitals. Open the file,
make some
changes and try to save it. What happens ?

Artificial Intelligence and Data Science

23. Create an alias to concatenate the 3 files capitals1, capitals2, capitals3 and
redirect the
output to a file named capitals. Activate the alias and make it run.
24. What are the environment variables PATH, HOME and TERM set to on your
terminal ?
25. Find out the number of times the string “the” appears in the file mydate.
26. Find out the line numbers on which the string “date” exists in mydate.
27. Print all lines of mydate except those that have the letter “i” in them.
28. Create the file monotonic as follows:

`^a?b?b?c?x?y?z$`

Run the egrep command for monotonic against /usr/dict/words and search for all 4 letter

words.

29. List 5 states in north east India in a file mystates. List their corresponding capitals in a file

mycapitals. Use the paste command to join the 2 files.

30. Use the cut command to print the 1st and 3rd columns of the /etc/passwd file for all

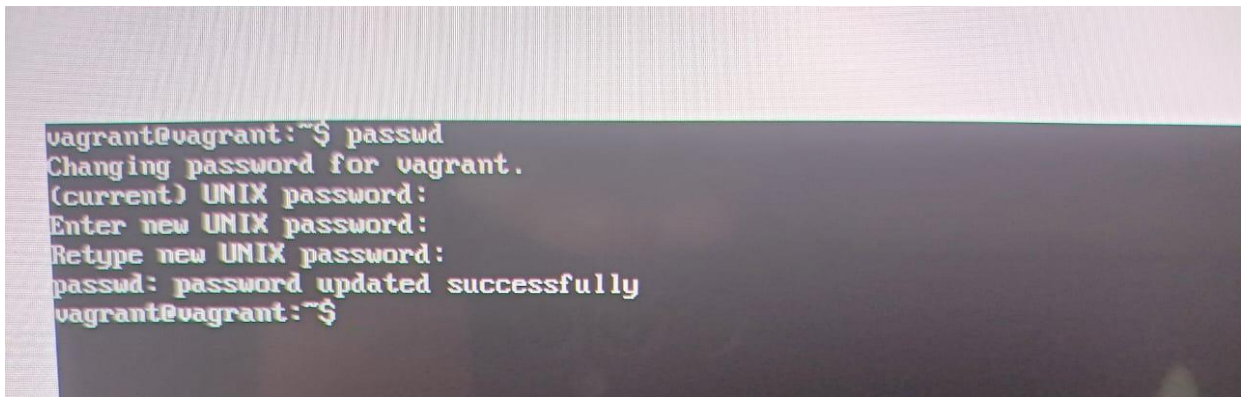
students in this class.

31. Count the number of people logged in and also trap the users in a file using the tee

command.

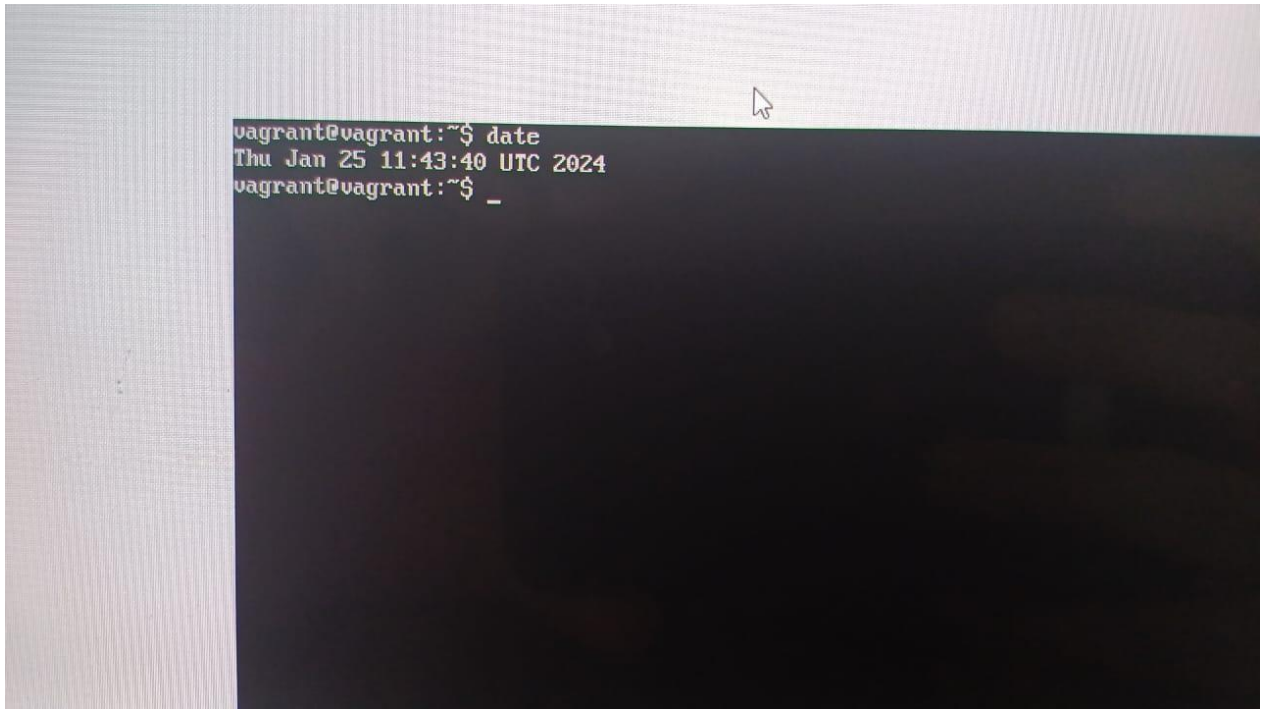
Answer :

1. passwd



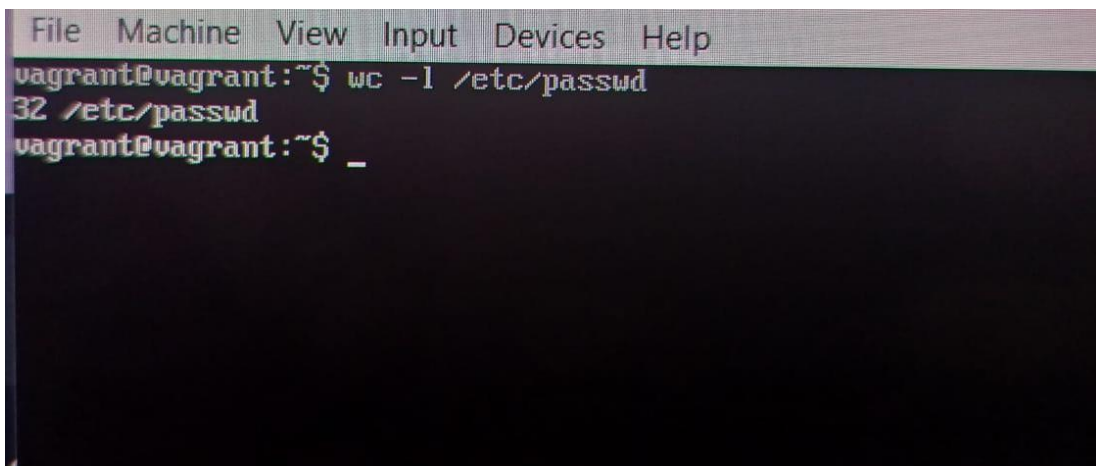
```
vagrant@vagrant:~$ passwd
Changing password for vagrant.
(current) UNIX password:
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
vagrant@vagrant:~$
```

2. date

A terminal window with a dark background. The prompt is 'vagrant@vagrant:~\$'. The user has entered 'date' and the output is 'Thu Jan 25 11:43:40 UTC 2024'. The prompt is now 'vagrant@vagrant:~\$ _'.

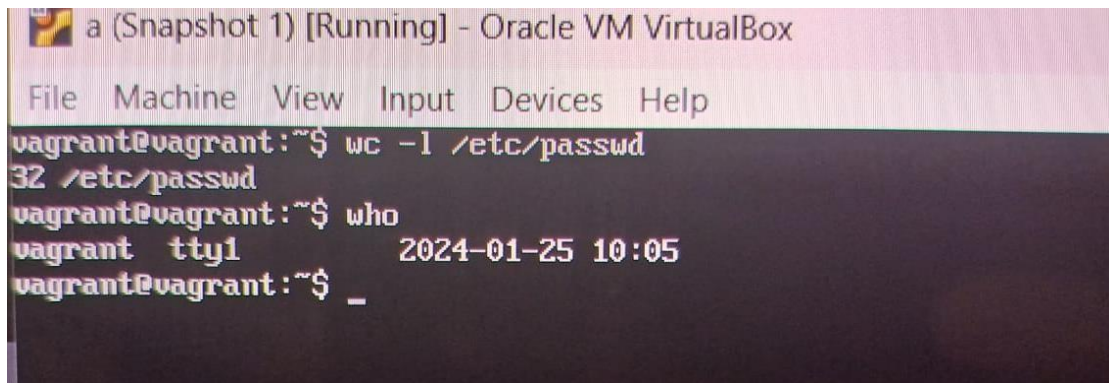
```
vagrant@vagrant:~$ date
Thu Jan 25 11:43:40 UTC 2024
vagrant@vagrant:~$ _
```

3. `wc -l /etc/passwd`

A terminal window with a dark background. The prompt is 'vagrant@vagrant:~\$'. The user has entered 'wc -l /etc/passwd' and the output is '32 /etc/passwd'. The prompt is now 'vagrant@vagrant:~\$ _'.

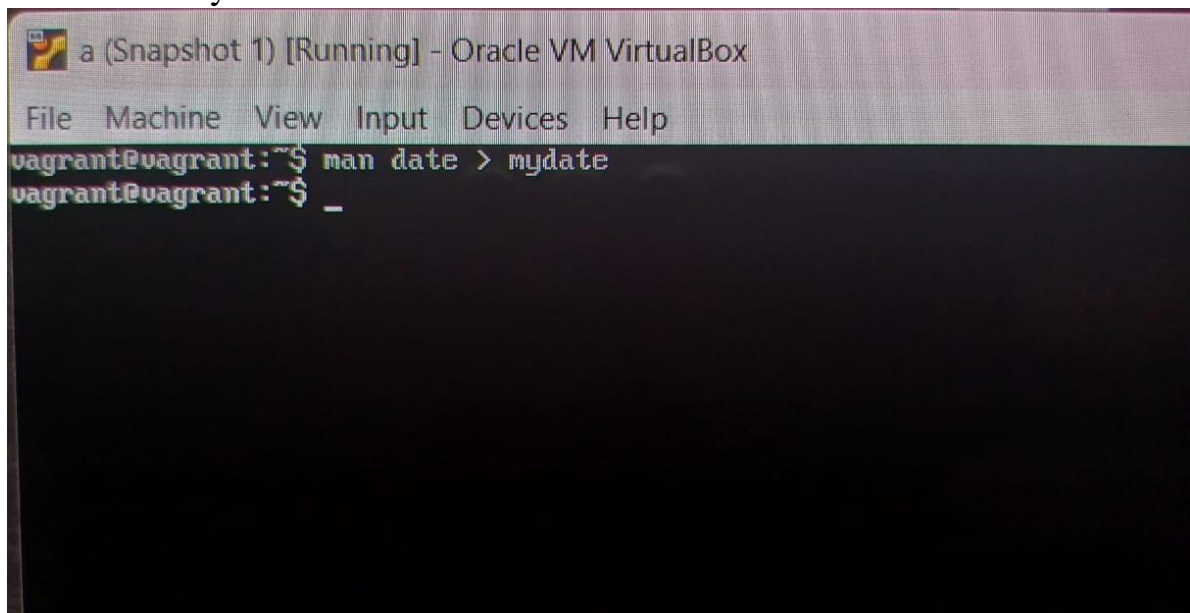
```
File  Machine  View  Input  Devices  Help
vagrant@vagrant:~$ wc -l /etc/passwd
32 /etc/passwd
vagrant@vagrant:~$ _
```

4. `who`



```
a (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
vagrant@vagrant:~$ wc -l /etc/passwd
32 /etc/passwd
vagrant@vagrant:~$ who
vagrant tty1          2024-01-25 10:05
vagrant@vagrant:~$ _
```

5. man date > mydate



```
a (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
vagrant@vagrant:~$ man date > mydate
vagrant@vagrant:~$ _
```

6. mkdir mydir

```
File Machine View Input Devices Help
vagrant@vagrant:~$ mkdir mydir
vagrant@vagrant:~$ cd
vagrant@vagrant:~$ cd mydir
vagrant@vagrant:~/mydir$
```

7. mv mydate mydir/

```
File Machine View Input Devices Help
vagrant@vagrant:~$ mv mydate mydir/
vagrant@vagrant:~$ cd mydir
vagrant@vagrant:~/mydir$ ls
mydate
vagrant@vagrant:~/mydir$ _
```

8. cp mydate ourdate

```
vagrant@vagrant:~$ mv mydate mydir/
vagrant@vagrant:~$ cd mydir
vagrant@vagrant:~/mydir$ ls
mydate
vagrant@vagrant:~/mydir$ cp mydate ourdate
vagrant@vagrant:~/mydir$ ls
mydate  ourdate
vagrant@vagrant:~/mydir$ _
```


9. ls mydir

```
File Machine View Input Devices Help
vagrant@vagrant:~$ ls mydir
mydate ourdate
vagrant@vagrant:~$ _
```

10. ls -l ourdate

```
File Machine View Input Devices Help
vagrant@vagrant:~$ ls mydir
mydate ourdate
vagrant@vagrant:~$ ls -l ourdate
ls: cannot access 'ourdate': No such file or directory
vagrant@vagrant:~$ cd mydir
vagrant@vagrant:~/mydir$ ls -l ourdate
-rw-rw-r-- 1 vagrant vagrant 6351 Jan 25 12:25 ourdate
vagrant@vagrant:~/mydir$
```

11. pwd

```
File Machine View Input Devices Help
vagrant@vagrant:~/mydir$ cd
vagrant@vagrant:~$ pwd
/home/vagrant
vagrant@vagrant:~$
```

12. mv mydir/* ~/

```
File Machine View Input Devices Help
vagrant@vagrant:~/mydir$ cd
vagrant@vagrant:~$ pwd
~/home/vagrant
vagrant@vagrant:~$ mv mydir/* ~/
vagrant@vagrant:~$ cd mydir
vagrant@vagrant:~/mydir$ ls
vagrant@vagrant:~/mydir$ cf
-bash: cf: command not found
vagrant@vagrant:~/mydir$ cd
vagrant@vagrant:~$ ls
mydate mydir ourdate transfer.txt vinay.txt
vagrant@vagrant:~$ _
```

13. ls ~

```
File Machine View Input Devices Help
vagrant@vagrant:~$ ls
mydate mydir ourdate transfer.txt vinay.txt
vagrant@vagrant:~$
```

14. head -n 5 mydate


```
vagrant@vagrant:~$ head -n 5 mydate
DATE(1)
User Commands
NAME
date - print or set the system date and time
vagrant@vagrant:~$ _
```

15.tail -n 8 mydate

```
vagrant@vagrant:~$ tail -n 8 mydate
This is free software: you are free to change and redistribute it. There is NO WARRANTY,
to the extent permitted by law.
SEE ALSO
Full documentation at: <http://www.gnu.org/software/coreutils/date>
or available locally via: info '(coreutils) date invocation'
GNU coreutils 8.28
January 2018
DATE(1)
vagrant@vagrant:~$ _
```

16.rm -r mydir

```
vagrant@vagrant:~$ rm -r mydir
vagrant@vagrant:~$ cd mydir
-bash: cd: mydir: No such file or directory
vagrant@vagrant:~$ _
```

17. `ls -l > list`

```
vagrant@vagrant:~$ ls -l > list
vagrant@vagrant:~$ ls
list mydate ourdate transfer.txt vinay.txt
vagrant@vagrant:~$ cat list
total 20
-rw-rw-r-- 1 vagrant vagrant    0 Jan 25 12:49 list
-rw-rw-r-- 1 vagrant vagrant 6351 Jan 25 12:11 mydate
-rw-rw-r-- 1 vagrant vagrant 6351 Jan 25 12:25 ourdate
-rw-rw-r-- 1 vagrant vagrant   19 Nov 30 12:18 transfer.txt
-rw-rw-r-- 1 vagrant vagrant    0 Jan 25 10:16 vinay.txt
vagrant@vagrant:~$
```

18. `cat capitals1 capitals2 capitals3 > capitals`

```
vagrant@vagrant:~$ cat capitals1 capitals2 capitals3 > capitals
vagrant@vagrant:~$ ls
capitals capitals1 capitals2 capitals3 list mydate ourdate transfer.txt vinay.txt
vagrant@vagrant:~$ cat capitals
hi
vinay
how are you?
vagrant@vagrant:~$
```

19. cat capitals2 >> capitals

```
vagrant@vagrant:~$ cat capitals2>>capitals
vagrant@vagrant:~$ cat capitals
hi
vinay
how are you?
vinay
vagrant@vagrant:~$ _
```

20. wc -l < capitals


```
vagrant@vagrant:~$ wc -l < capitals
4
vagrant@vagrant:~$ _
```

21. chmod ugo+rw capitals

```
vagrant@vagrant:~$ wc -l < capitals
4
vagrant@vagrant:~$ chmod ugo+rw capitals
vagrant@vagrant:~$ ls
capitals capitals1 capitals2 capitals3 list mydate ourdate transfer.txt vinay.txt
vagrant@vagrant:~$ _
```

22. chmod go-rw capitals

```
vagrant@vagrant:~$ chmod go-rw capitals
vagrant@vagrant:~$ _
```

23. alias concat_capitals='cat capitals1 capitals2 capitals3 > capitals'

```
vagrant@vagrant:~$ alias concat_capitals='cat capitals1 capitals2 capitals3 > capitals'
vagrant@vagrant:~$ ls
capitals  capitals2  concat_capitals  mydate  transfer.txt
capitals1 capitals3  list             ourdate  vinay.txt
vagrant@vagrant:~$ _
```

24. echo \$PATH
echo \$HOME
echo \$TERM


```
vagrant@vagrant:~$ echo $PATH
/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
vagrant@vagrant:~$ echo $HOME
/home/vagrant
vagrant@vagrant:~$ echo $TERM
linux
vagrant@vagrant:~$ _
```

25. `grep -o -i 'the' mydate | wc -l`

```
vagrant@vagrant:~$ grep -o -i 'the' mydate | wc -l
31
vagrant@vagrant:~$ _
```

26. `grep -n 'date' mydate`

```

vagrant@vagrant:~$ grep -n 'date' mydate
1:  date - print or set the system date and time
7:  date [OPTION]... [+FORMAT]
8:  date [-u|--utc|--universal] [MMDDhhmm[[CC]YY][.ss]]
11: Display the current time in the given FORMAT, or set the system date.
15:  -d, --date=STRING
19:      annotate the parsed date, and warn about questionable usage to stderr
22:      like --date: once for each line of DATEFILE
25:      output date/time in ISO 8601 format. FMT='date' for date only (the default),
26:      'hours', 'minutes', 'seconds', or 'ns' for date and time to the indicated preci-
30:      output date and time in RFC 5322 format. Example: Mon, 14 Aug 2006 02:34:56 -0600
33:      output date/time in RFC 3339 format. FMT='date', 'seconds', or 'ns' for date and
36:      locale's date and time (e.g., Thu Mar 3 23:05:25 2005)
38:  %D  date: same as %m/%d/%y
42:  %F  full date: same as %Y-%m-%d
46:  %x  locale's date representation (e.g., 12/31/99)
49:  By default, date pads numeric fields with zeroes. The following optional flags may follo
52:
53: Convert seconds since the epoch (1970-01-01 UTC) to a date
54:  $ date --date='@2147483647'
58:  $ TZ='America/Los_Angeles' date
62:  $ date --date='TZ="America/Los_Angeles" 09:00 next Fri'
65: The --date=STRING is a mostly free format human readable date string such as "Sun, 29 Fe
68: 2004 16:21:42 -0800" or "2004-02-29 16:21:42" or even "next Thursday". A date string ma
71: contain items indicating calendar date, time of day, time zone, day of week, relativ
74: time, relative date, and numbers. An empty string indicates the beginning of the day
77: The date string format is more complex than is easily documented here but is full
80: Report date translation bugs to <http://translationproject.org/team>
83: Full documentation at: <http://www.gnu.org/software/coreutils/date>
86: or available locally via: info '(coreutils) date invocation'
vagrant@vagrant:~$

```

27. grep -v 'i' mydate

```

%Y  year

'x':

EXAMPLES

$ date --date='@2147483647'

DATE STRING
AUTHOR
REPORTING BUGS
COPYRIGHT
SEE ALSO
vagrant@vagrant:~$

```

28. egrep '^a?b?b?c?x?y?z\$' /usr/dict/words

```
File Machine View Input Devices Help
vagrant@vagrant:~$ egrep '^a?b?b?c?x?y?z$' /usr/share/dict/
grep: /usr/share/dict/: Is a directory
vagrant@vagrant:~$ egrep '^a?b?b?c?x?y?z$' /usr/dict/words
grep: /usr/dict/words: No such file or directory
vagrant@vagrant:~$
```

29. `echo -e "State1\nState2\nState3\nState4\nState5" > mystates`
`echo -e "Capital1\nCapital2\nCapital3\nCapital4\nCapital5" > mycapitals`
`paste mystates mycapitals > joined_file`

```
File Machine View Input Devices Help
vagrant@vagrant:~$ echo -e "State1\nState2\nState3\nState4\nState5" > mystates
vagrant@vagrant:~$ ls
capitals  capitals2  concat_capitals  mydate  ourdate  vinay.txt
capitals1 capitals3  list             mystates  transfer.txt
vagrant@vagrant:~$ cat mystates
State1
State2
State3
State4
State5
vagrant@vagrant:~$
```

30. `cut -d: -f1,3 /etc/passwd`

```
File Machine View Input Devices Help
vagrant@vagrant:~$ cut -d: -f1,3 /etc/passwd
root:0
daemon:1
bin:2
sys:3
sync:4
games:5
man:6
lp:7
mail:8
news:9
uucp:10
proxy:13
www-data:33
backup:34
list:38
irc:39
gnats:41
nobody:65534
systemd-network:100
systemd-resolve:101
syslog:102
messagebus:103
_apt:104
lxd:105
uuidd:106
dnsmasq:107
landscape:108
pollinate:109
statd:110
sshd:111
vagrant:1000
vboxadd:999
vagrant@vagrant:~$ _
```

31. who | tee users.txt
wc -l users.txt


```
vagrant@vagrant:~$ who | tee users.txt
vagrant tty1      2024-01-25 13:41
vagrant@vagrant:~$ wc -l users.txt
1 users.txt
vagrant@vagrant:~$ ls
capitals  capitals2  concat_capitals  list      mydate  ourdate  users.txt
capitals1 capitals3  joined_file      mycapitals mystates  transfer.txt  vinay.txt
vagrant@vagrant:~$ cat users.txt
vagrant tty1      2024-01-25 13:41
vagrant@vagrant:~$
```