

Linux 基础入门之实验十三正则表达式基础上

实验十三的学习内容包括 sed、grep、awk 命令的用法，正则表达式的符号和语法。

本次主要学习正则表达式的符号和语法，grep 命令。

1. 正则表达式

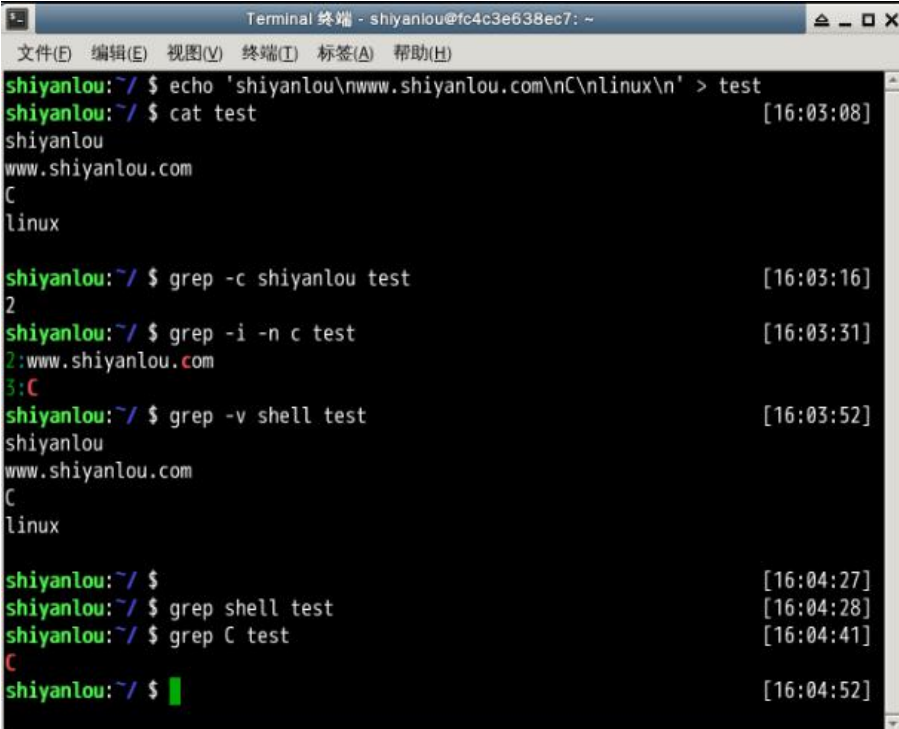
(1) 基本语法

一个正则表达式通常被称为一个模式（pattern），为用来描述或者匹配一系列符合某个句法规则的字符串。

学习命令内容的选择、数量限定、范围和优先级等。

(2) grep 模式匹配命令

grep 命令用于打印输出文本中匹配的模式串，它使用正则表达式作为模式匹配的条件。

A terminal window titled 'Terminal 终端 - shiyanlou@fc4c3e638ec7: ~' showing a series of commands and their outputs. The user first creates a file 'test' with 'echo 'shiyanlou\nwww.shiyanlou.com\nC\nlinux' > test'. Then they use 'cat test' to show the file contents. Next, they use 'grep -c shiyanlou test' to count occurrences (output: 2). Then 'grep -i -n c test' to find lines with 'c' (output: 2:www.shiyanlou.com). Then 'grep -v shell test' to show lines not containing 'shell' (output: shiyanlou, www.shiyanlou.com, C, linux). Finally, they use 'grep shell test' (output: C) and 'grep C test' (output: C).

```
shiyanlou:~/ $ echo 'shiyanlou\nwww.shiyanlou.com\nC\nlinux\n' > test
shiyanlou:~/ $ cat test
shiyanlou
www.shiyanlou.com
C
linux

shiyanlou:~/ $ grep -c shiyanlou test
2

shiyanlou:~/ $ grep -i -n c test
2:www.shiyanlou.com
$:C

shiyanlou:~/ $ grep -v shell test
shiyanlou
www.shiyanlou.com
C
linux

shiyanlou:~/ $
shiyanlou:~/ $ grep shell test
C
shiyanlou:~/ $ grep C test
C
shiyanlou:~/ $
```

位置：

```

shiyanolou:~/ $ grep 'shiyanolou' /etc/group [16:04:52]
shiyanolou:x:5000:
shiyanolou:~/ $ grep '^shiyanolou' /etc/group [16:06:16]
shiyanolou:x:5000:
shiyanolou:~/ $ [16:07:15]

```

数量:

```

shiyanolou:~/ $ echo 'zero\nzo\nzoo' | grep 'z.*o' [16:07:15]
zero
zo
zoo
shiyanolou:~/ $ echo 'zero\nzo\nzoo' | grep 'z.o' [16:09:06]
zoo
shiyanolou:~/ $ echo 'zero\nzo\nzoo' | grep 'zo*' [16:09:51]
zero
zo
zoo
shiyanolou:~/ $ [16:10:19]

```

选择:

```

shiyanolou:~/ $ echo '1234\nabcd' | grep '[a-z]' [16:10:19]
abcd
shiyanolou:~/ $ echo '1234\nabcd' | grep '[0-9]' [16:20:14]
1234
shiyanolou:~/ $ echo '1234\nabcd' | grep '[:digit:]' [16:20:37]
1234
shiyanolou:~/ $ echo '1234\nabcd' | grep '[:lower:]' [16:21:17]
abcd
shiyanolou:~/ $ echo '1234\nabcd' | grep '[:upper:]' [16:21:59]
shiyanolou:~/ $ echo '1234\nAbCd' | grep '[:upper:]' [16:22:22]
AbCd
shiyanolou:~/ $ echo '1234\nabcd\n1234' | grep '[:alnum:]' [16:22:54]
1234
abcd
1234
shiyanolou:~/ $ echo '1234\nabcd\nABCD' | grep '[:apht:]' [16:23:50]
grep: 无效的字符类名
shiyanolou:~/ $ echo '1234\nabcd\nABCD' | grep '[:alpha:]' [16:24:35]
abcd
ABCD
shiyanolou:~/ $ [16:25:18]

```

(3) 扩展正则表达式

```

shiyanolou:~/ $ echo '1234\nabcd\nABCD' | grep '[:alpha:]' [16:24:35]
abcd
ABCD
shiyanolou:~/ $ echo 'zero\nzo\nzoo' | grep -E 'zo(1)' [16:25:18]
shiyanolou:~/ $ echo 'zero\nzo\nzoo' | grep -E 'zo{1}' [16:32:47]
zo
zoo
shiyanolou:~/ $ echo 'zero\nzo\nzoo' | grep -E 'zo{1,}' [16:33:23]
zo
zoo
shiyanolou:~/ $ echo 'www.shiyanolou.com\nwww.baidu.com\nwww.google.com' | grep -E [16:33:23]
'www\.(shiyanolou|google)\.com'
www.shiyanolou.com
www.google.com

```