



Experiments11

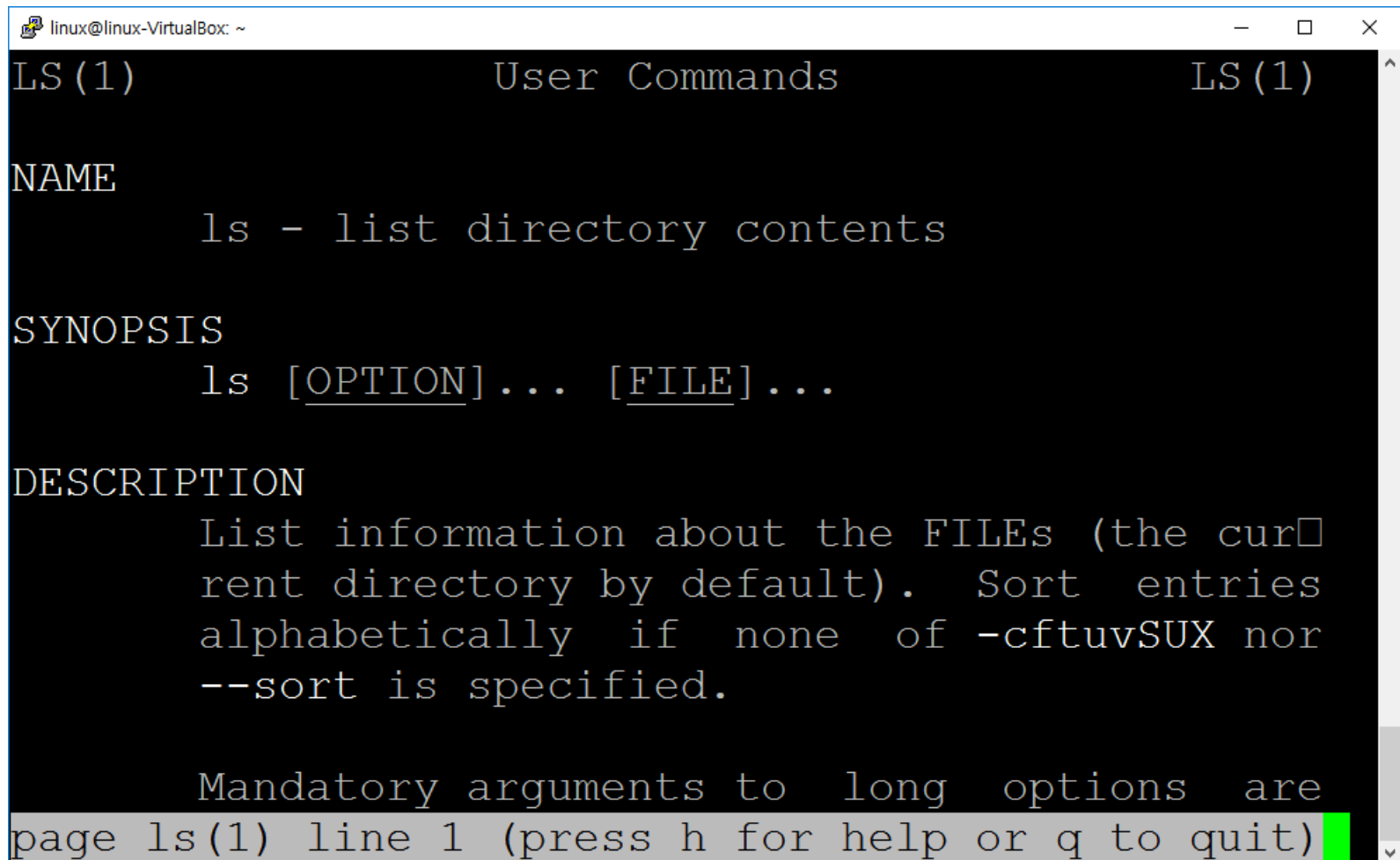
Utility

Open Source SW Development
CSE22300

Utility

man

- **Display manual of command**

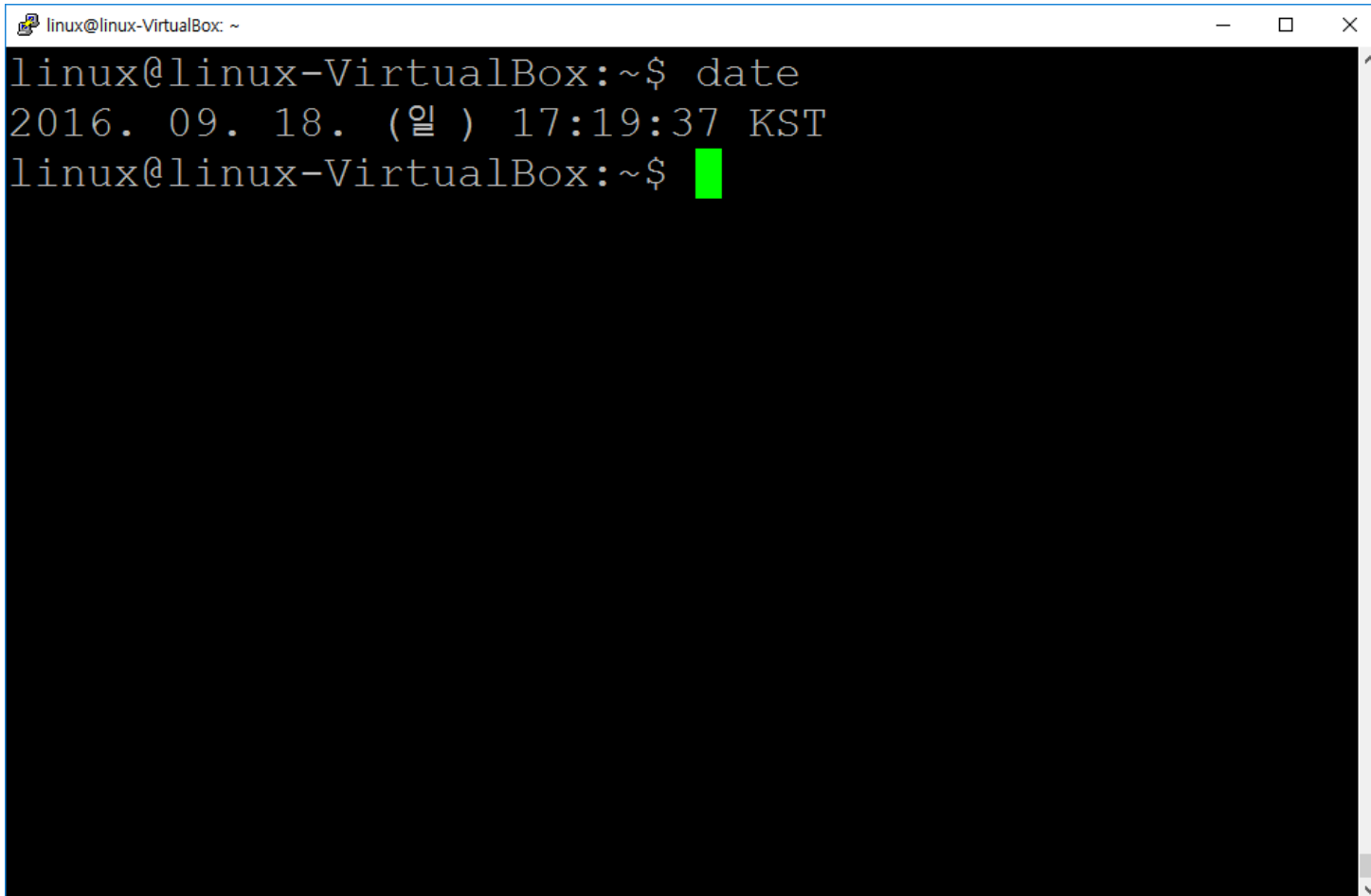


The screenshot shows a terminal window titled 'linux@linux-VirtualBox: ~'. The window displays the manual page for the 'ls' command. The title bar of the terminal window has standard Linux window controls (minimize, maximize, close) and a title 'linux@linux-VirtualBox: ~'. The terminal content shows the 'man ls' output, which includes the command name, synopsis, and description. The terminal has a black background with white text. The title bar is light blue. The terminal window is titled 'linux@linux-VirtualBox: ~'. The terminal content shows the 'man ls' output, which includes the command name, synopsis, and description. The terminal has a black background with white text. The title bar is light blue. The terminal window is titled 'linux@linux-VirtualBox: ~'. The terminal content shows the 'man ls' output, which includes the command name, synopsis, and description. The terminal has a black background with white text.

```
linux@linux-VirtualBox: ~  
LS (1)                                User Commands                                LS (1)  
  
NAME  
    ls - list directory contents  
  
SYNOPSIS  
    ls [OPTION]... [FILE]...  
  
DESCRIPTION  
    List information about the FILES (the current directory by default). Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.  
  
    Mandatory arguments to long options are  
page ls(1) line 1 (press h for help or q to quit)
```

Date

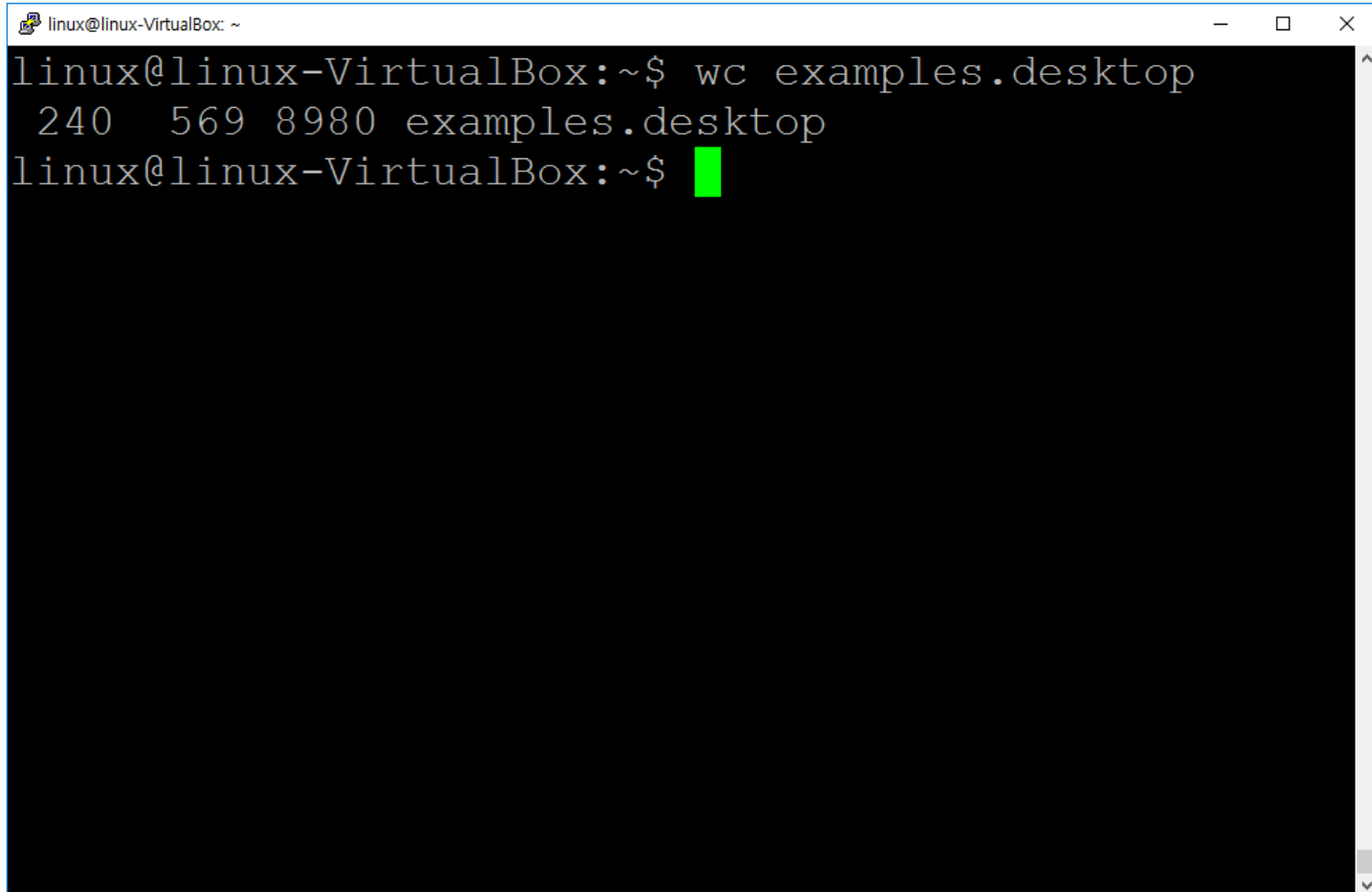
- **Print or set the system date and time**

A terminal window titled 'linux@linux-VirtualBox: ~' with standard window controls. The terminal shows the command 'date' being executed, resulting in the output '2016. 09. 18. (일) 17:19:37 KST'. The prompt 'linux@linux-VirtualBox:~\$' is followed by a green cursor.

```
linux@linux-VirtualBox:~$ date
2016. 09. 18. (일) 17:19:37 KST
linux@linux-VirtualBox:~$
```

WC

- **Print newline, word, and byte counts for each file**

A terminal window titled 'linux@linux-VirtualBox: ~' with standard window controls. The terminal shows the command 'wc examples.desktop' being executed. The output is '240 569 8980 examples.desktop', where 240 is the line count, 569 is the word count, and 8980 is the byte count. The prompt 'linux@linux-VirtualBox:~\$' is followed by a green cursor block.

```
linux@linux-VirtualBox:~$ wc examples.desktop
240 569 8980 examples.desktop
linux@linux-VirtualBox:~$
```

more

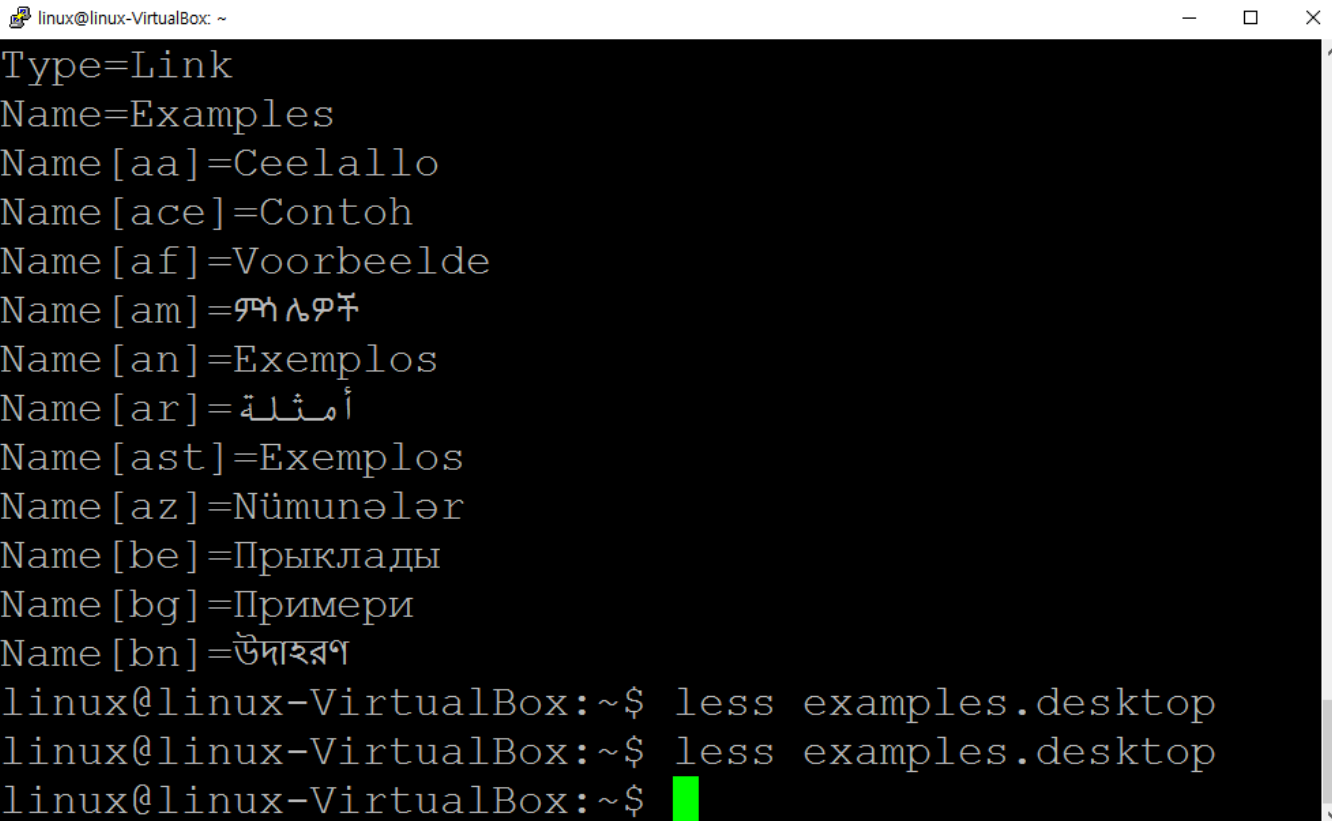
- **Displays the entire contents of a file one page at a time**
 - Spacebar moves through file one page at a time
 - Enter key moves through file one line at a time
 - Only moves forward through a file, not backward
 - Exit: q
 - Example 1: more lab1.txt

more

```
linux@linux-VirtualBox: ~  
[Desktop Entry]  
Version=1.0  
Type=Link  
Name=Examples  
Name[aa]=Ceelallo  
Name[ace]=Contoh  
Name[af]=Voorbeelde  
Name[am]=ጥላላዎች  
Name[an]=Exemplos  
Name[ar]=أمثلة  
Name[ast]=Exemplos  
Name[az]=Nümunələr  
Name[be]=Прыклады  
Name[bg]=Примери  
Name[bn]=উদাহরণ  
linux@linux-VirtualBox:~$ more examples.desktop
```

less

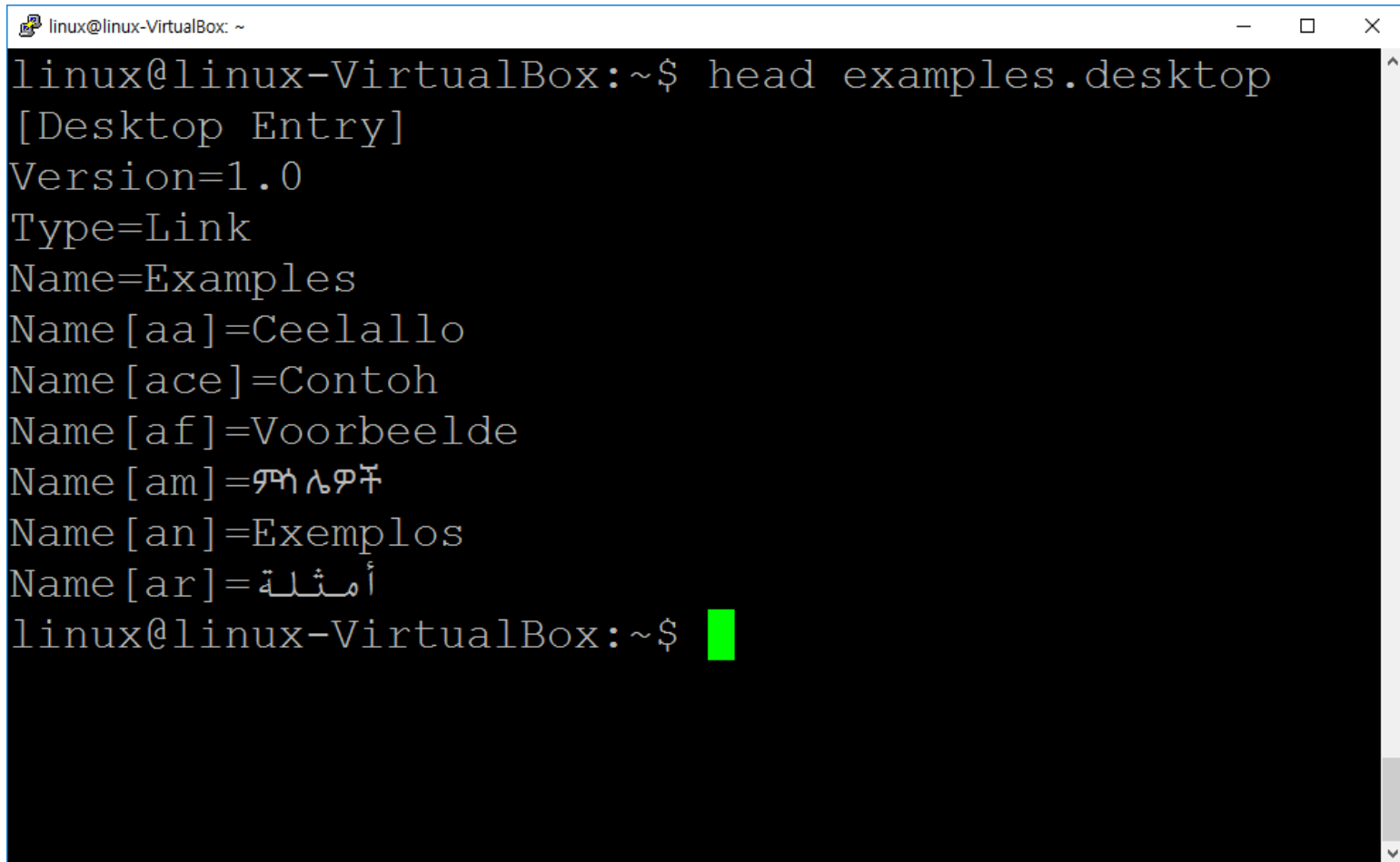
- **Nearly equivalent to the more command**
 - Allows you to move forward and backward in the file
 - **Usage: same as more**



```
linux@linux-VirtualBox: ~  
Type=Link  
Name=Examples  
Name[aa]=Ceelallo  
Name[ace]=Contoh  
Name[af]=Voorbeelde  
Name[am]=ጥላላዎች  
Name[an]=Exemplos  
Name[ar]=أمثلة  
Name[ast]=Exemplos  
Name[az]=Nümunələr  
Name[be]=Прыклады  
Name[bg]=Примери  
Name[bn]=উদাহরণ  
linux@linux-VirtualBox:~$ less examples.desktop  
linux@linux-VirtualBox:~$ less examples.desktop  
linux@linux-VirtualBox:~$
```


head

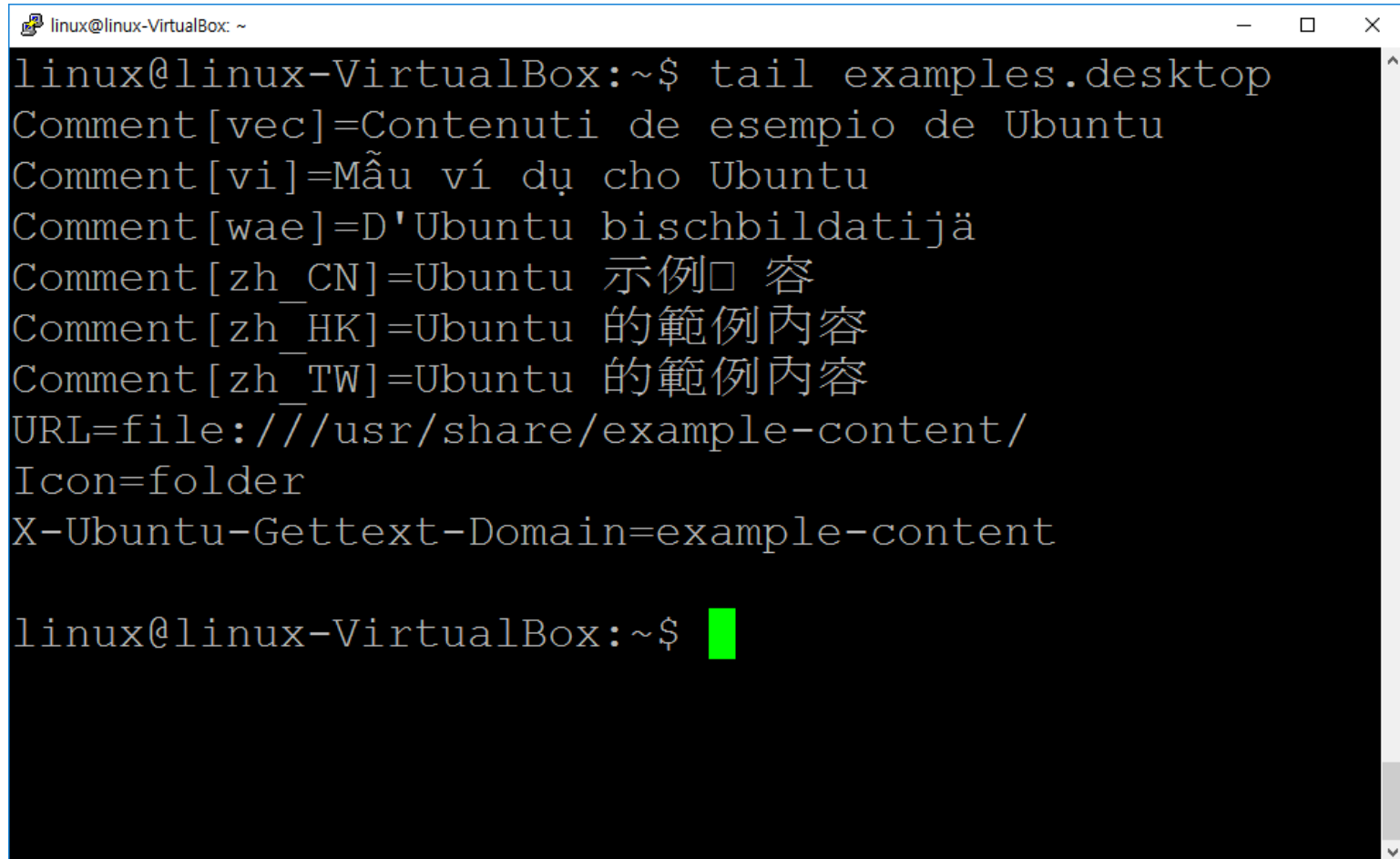
- **Displays just the first ten lines of a file**



```
linux@linux-VirtualBox: ~$ head examples.desktop
[Desktop Entry]
Version=1.0
Type=Link
Name=Examples
Name[aa]=Ceelallo
Name[ace]=Contoh
Name[af]=Voorbeelde
Name[am]=ምሳሌዎች
Name[an]=Exemplos
Name[ar]=أمثلة
linux@linux-VirtualBox: ~$
```

tail

- **Displays just the last ten lines of a file**



```
linux@linux-VirtualBox: ~  
linux@linux-VirtualBox:~$ tail examples.desktop  
Comment[vec]=Contenuti de esempio de Ubuntu  
Comment[vi]=Mẫu ví dụ cho Ubuntu  
Comment[wae]=D'Ubuntu bischbildati jä  
Comment[zh_CN]=Ubuntu 示例内容  
Comment[zh_HK]=Ubuntu 的範例內容  
Comment[zh_TW]=Ubuntu 的範例內容  
URL=file:///usr/share/example-content/  
Icon=folder  
X-Ubuntu-Gettext-Domain=example-content  
  
linux@linux-VirtualBox:~$
```

find

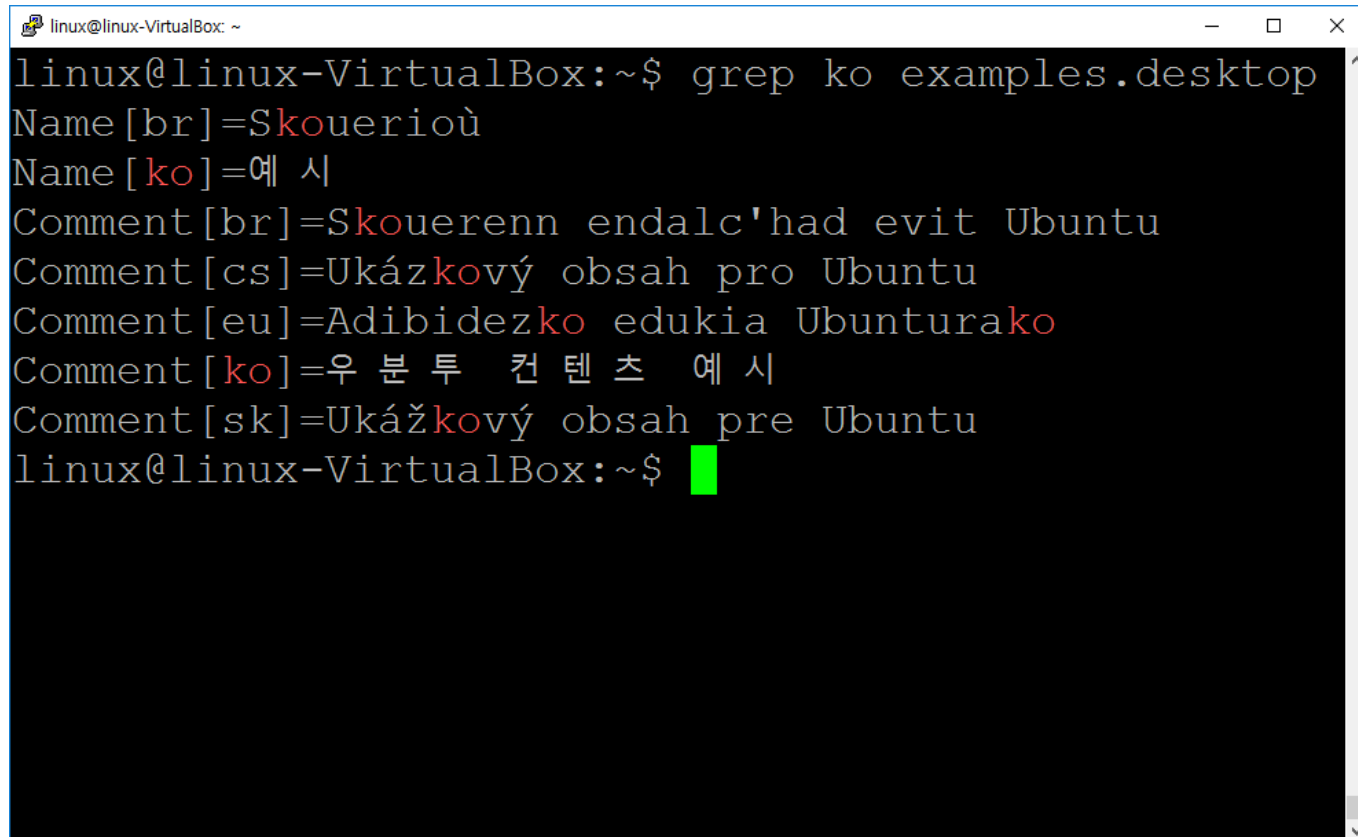
- **Find files**
 - The argument is a path. The name of the file must be specified with the option **-name**.
 - There more options
- **Find file with name “hw1.txt” in current directory (including sub directories)**
 - **find ./ -name hw1.txt**
- **Find file with name extension “.txt” in root (including all sub directories)**
 - **find / -name “*.txt”**

find

```
linux@linux-VirtualBox: ~  
linux@linux-VirtualBox:~$ ls  
examples.desktop  newmount  문서          사진  
gettysburg.txt    공개      바탕화면     음악  
gettysburg.txt.1  다운로드  비디오       템플릿  
linux@linux-VirtualBox:~$ find ./ -name "*.txt"  
./mozilla/firefox/yzkfxuo7.default/SecurityServiceState.txt  
./mozilla/firefox/yzkfxuo7.default/revocations.txt  
./gettysburg.txt  
linux@linux-VirtualBox:~$
```

grep

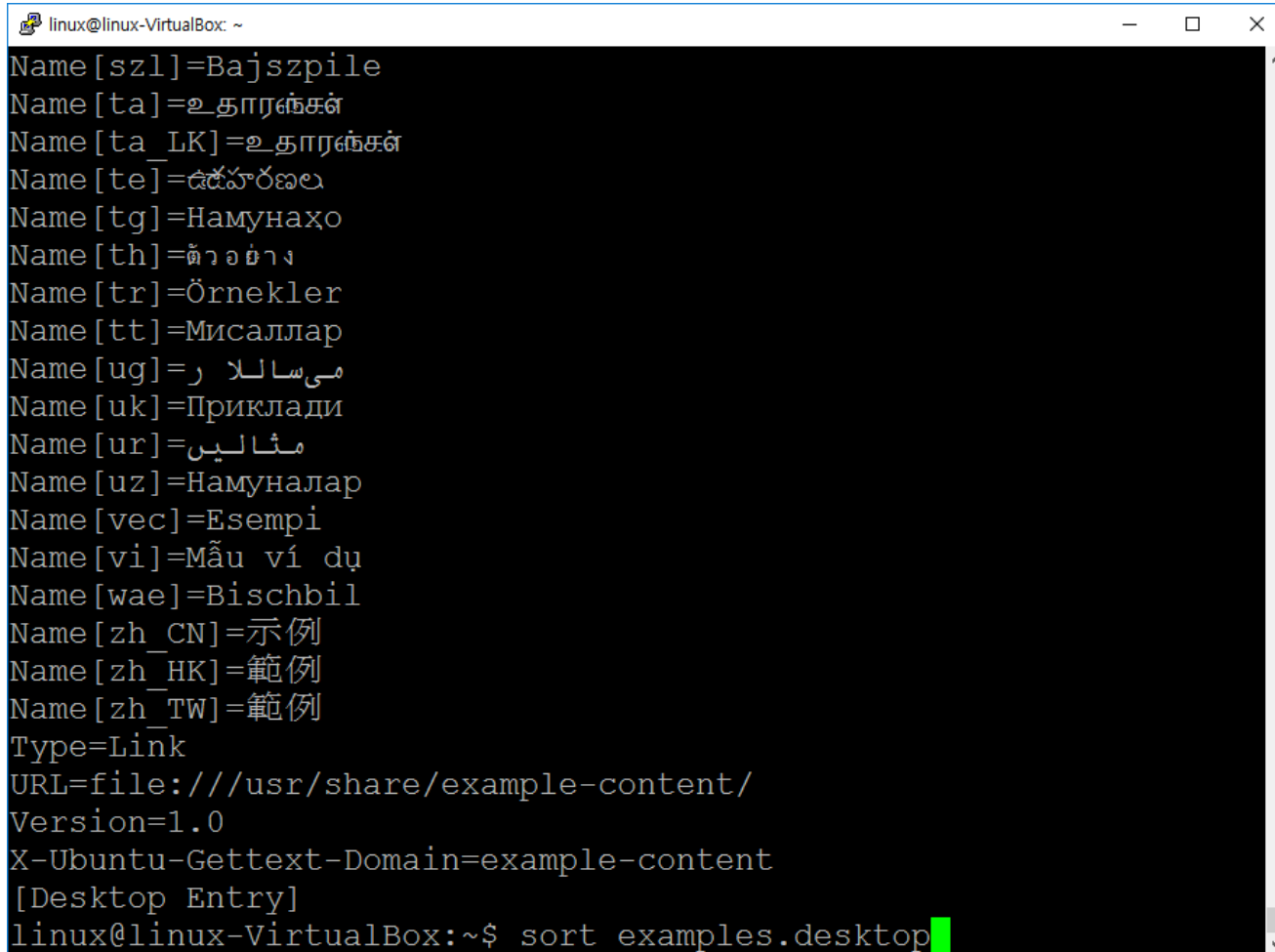
- Match a regular expression against text in a file
- Display the lines that contain ligyu in file file1.txt
 - `grep “ligyu” file1.txt`

A terminal window titled 'linux@linux-VirtualBox: ~' with standard window controls. It shows the command 'grep ko examples.desktop' and its output. The output consists of six lines, each with a field name in brackets followed by a value. In each value, the substring 'ko' is highlighted in red. The fields are Name[br], Name[ko], Comment[br], Comment[cs], Comment[eu], Comment[ko], and Comment[sk].

```
linux@linux-VirtualBox:~$ grep ko examples.desktop
Name[br]=Skouerioù
Name[ko]=예 시
Comment[br]=Skouerenn endalc'had evit Ubuntu
Comment[cs]=Ukázkový obsah pro Ubuntu
Comment[eu]=Adibidezko edukia Ubunturako
Comment[ko]=우 분 투 컨 텐 츠 예 시
Comment[sk]=Ukážkový obsah pre Ubuntu
linux@linux-VirtualBox:~$
```

sort

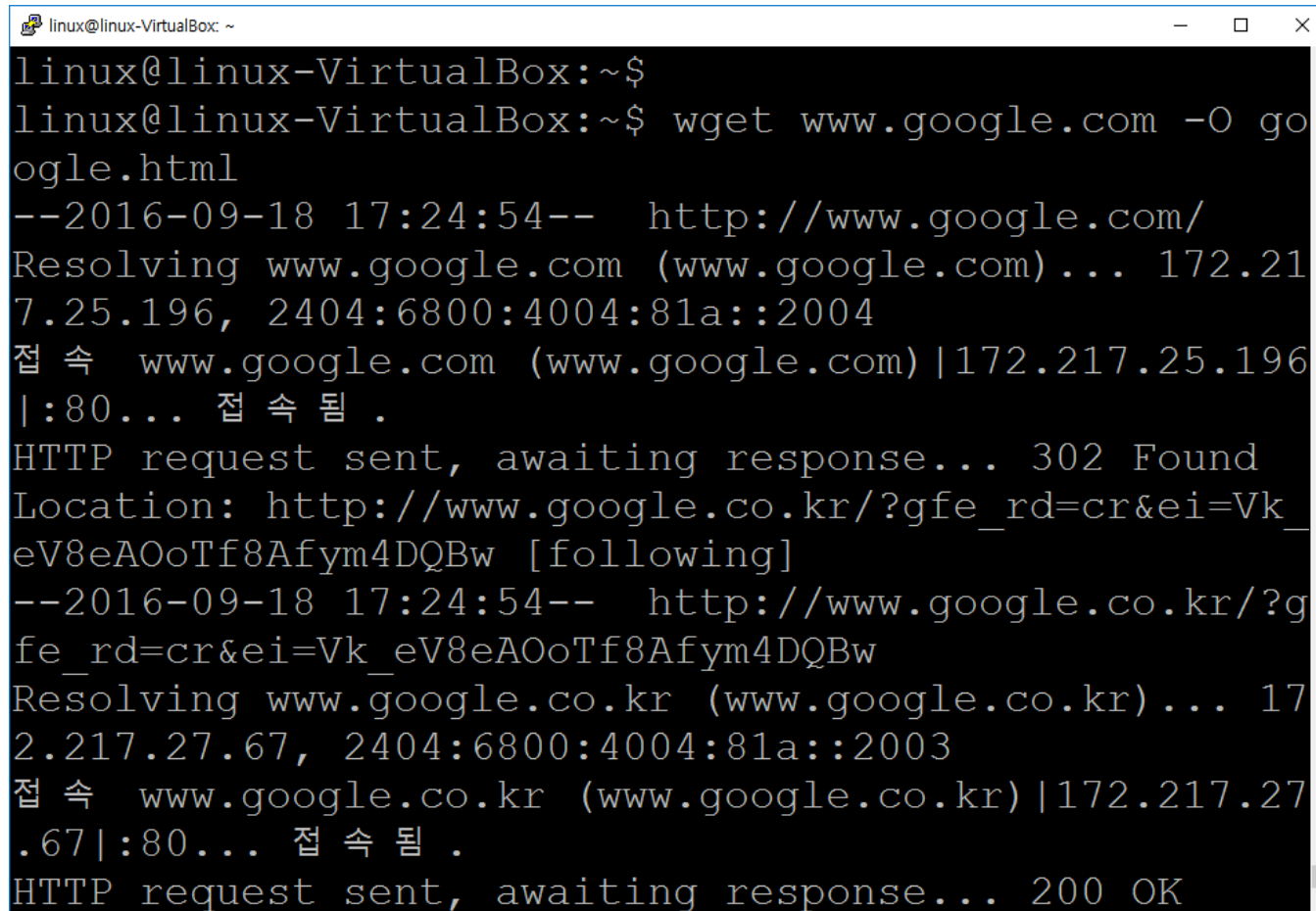
- Sort lines of text files



```
linux@linux-VirtualBox: ~  
Name[szl]=Bajszpile  
Name[ta]=உதாரண்கள்  
Name[ta_LK]=உதாரண்கள்  
Name[te]=ఉదాహరణలు  
Name[tg]=Намунаҳо  
Name[th]=ตัวอย่าง  
Name[tr]=Örnekler  
Name[tt]=Мисаллар  
Name[ug]=مىساللار  
Name[uk]=Приклади  
Name[ur]=مثالیں  
Name[uz]=Намуналар  
Name[vec]=Esempi  
Name[vi]=Mẫu ví dụ  
Name[wae]=Bischbil  
Name[zh_CN]=示例  
Name[zh_HK]=範例  
Name[zh_TW]=範例  
Type=Link  
URL=file:///usr/share/example-content/  
Version=1.0  
X-Ubuntu-Gettext-Domain=example-content  
[Desktop Entry]  
linux@linux-VirtualBox:~$ sort examples.desktop
```

wget

- **The non-interactive network downloader**
 - Try: `wget www.google.com -O google.html`



```
linux@linux-VirtualBox: ~  
linux@linux-VirtualBox:~$  
linux@linux-VirtualBox:~$ wget www.google.com -O google.html  
--2016-09-18 17:24:54-- http://www.google.com/  
Resolving www.google.com (www.google.com)... 172.217.25.196, 2404:6800:4004:81a::2004  
접속 www.google.com (www.google.com) |172.217.25.196|:80... 접속됨 .  
HTTP request sent, awaiting response... 302 Found  
Location: http://www.google.co.kr/?gfe_rd=cr&ei=Vk_eV8eAOoTf8Afym4DQBw [following]  
--2016-09-18 17:24:54-- http://www.google.co.kr/?gfe_rd=cr&ei=Vk_eV8eAOoTf8Afym4DQBw  
Resolving www.google.co.kr (www.google.co.kr)... 172.217.27.67, 2404:6800:4004:81a::2003  
접속 www.google.co.kr (www.google.co.kr) |172.217.27.67|:80... 접속됨 .  
HTTP request sent, awaiting response... 200 OK
```

Pipe

- **Pipe (|)**
 - Pass the output of one command through the input of another command
- **ls -l | more**
- Pipe creates a temporary file to store the result of the first command
- Then this file becomes the input to second command

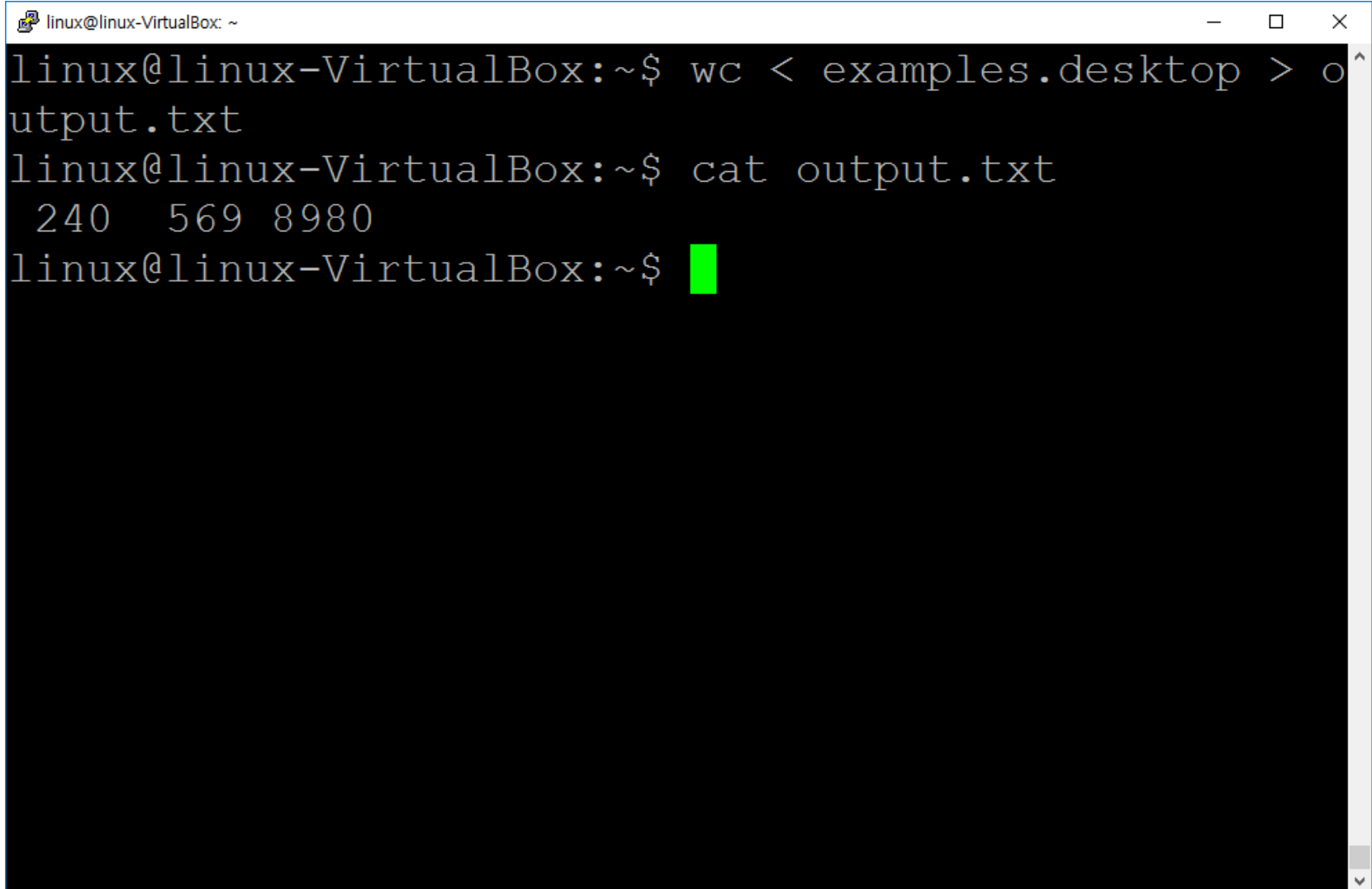
Pipe

```
linux@linux-VirtualBox: ~  
linux@linux-VirtualBox:~$ ls -l | more  
합 계 56  
-rw-r--r-- 1 linux linux 8980 9월 17 17:04 example  
s.desktop  
-rw-rw-r-- 1 linux linux 769 9월 18 15:56 gettysb  
urg.txt  
-rw-rw-r-- 1 linux linux 769 9월 18 15:57 gettysb  
urg.txt.1  
drwxr-xr-x 2 root root 4096 9월 18 14:28 newmoun  
t  
drwxr-xr-x 2 linux linux 4096 9월 17 17:37 공 개  
drwxr-xr-x 2 linux linux 4096 9월 17 17:37 다 운 로  
  
drwxr-xr-x 2 linux linux 4096 9월 17 17:37 문 서  
drwxr-xr-x 2 linux linux 4096 9월 17 17:37 바 탕 화  
  
--More--
```

Input and Output Redirection

- **Redirecting the input:**
 - **command < filename**
 - **Any input will read from that file (must be file).**
- **Redirecting the output**
 - **The simple > rewrites the output file**
 - **The double one >> appends to the file (must be file).**
- **command > filename**
- **command >> filename**
- **wc < examples.desktop > output.txt**

Input and Output Redirection



```
linux@linux-VirtualBox: ~  
linux@linux-VirtualBox:~$ wc < examples.desktop > output.txt  
240  569 8980  
linux@linux-VirtualBox:~$ cat output.txt  
240  569 8980  
linux@linux-VirtualBox:~$
```

The image shows a terminal window titled "linux@linux-VirtualBox: ~". The user enters the command `wc < examples.desktop > output.txt`, which counts the lines, words, and characters in the file `examples.desktop` and saves the results in `output.txt`. The output of this command is `240 569 8980`. Then, the user enters `cat output.txt`, which displays the contents of `output.txt`, showing the same output: `240 569 8980`. The prompt `linux@linux-VirtualBox:~$` is shown again, indicating the command execution is complete.

Compressing Files

- **Tar, gzip, gunzip**
- **tar**
 - compress several files (directories) into one archive.
 - Options: cf for compressing, xf for decompressing.
 - Example: `tar -cf examples.desktop.tar examples.desktop`
- **gzip**
 - Compresses one file at a time.
 - Options: none to compress, -d to decompress.
 - Example: `examples.desktop.tar`

Compressing Files

```
linux@linux-VirtualBox: ~  
newmount          문 서          음 악  
linux@linux-VirtualBox:~$ tar -cf examples.desktop.  
tar examples.desktop  
linux@linux-VirtualBox:~$ ls  
examples.desktop      newmount          문 서          음 악  
examples.desktop.tar  output.txt        바 탕 화 면    템 플 릿  
gettysburg.txt        공 개            비 디 오  
gettysburg.txt.1      다 운 로 드      사 진  
linux@linux-VirtualBox:~$ gzip examples.desktop.tar  
  
linux@linux-VirtualBox:~$ ls  
examples.desktop      output.txt        비 디 오  
examples.desktop.tar.gz  공 개            사 진  
gettysburg.txt        다 운 로 드      음 악  
gettysburg.txt.1      문 서            템 플 릿  
newmount              바 탕 화 면  
linux@linux-VirtualBox:~$
```

Decompressing Files

- **gzip -d examples.desktop.tar.gz (or gunzip examples.desktop.tar.gz)**
 - We get examples.desktop.tar
- **tar -xf examples.desktop.tar**
- **We get uncompressed files (folders)**

Decompressing Files

```
linux@linux-VirtualBox: ~  
linux@linux-VirtualBox:~$ ls  
examples.desktop      output.txt      비 디 오  
examples.desktop.tar.gz  공 개          사 진  
gettysburg.txt        다 운 로 드    음 악  
gettysburg.txt.1      문 서          템 플 릿  
newmount              바 탕 화 면  
linux@linux-VirtualBox:~$ gunzip examples.desktop.t  
ar.gz  
linux@linux-VirtualBox:~$ ls  
examples.desktop      newmount        문 서          음 악  
examples.desktop.tar  output.txt      바 탕 화 면    템 플 릿  
gettysburg.txt        공 개          비 디 오  
gettysburg.txt.1      다 운 로 드    사 진  
linux@linux-VirtualBox:~$ tar xf examples.desktop.t  
ar  
linux@linux-VirtualBox:~$
```

last

- Show listing of last logged in users

```
linux@linux-VirtualBox: ~  
linux      :0                :0                Sat Sep 17 17:37 - dow  
n      (20:40)  
reboot     system boot      4.4.0-31-generic Sat Sep 17 17:13 - 14:  
17      (21:04)  
  
wtmp begins Sat Sep 17 17:13:32 2016  
linux@linux-VirtualBox:~$ last  
linux      pts/18            10.0.2.2          Sun Sep 18 17:24    still  
logged in  
linux      pts/9             10.0.2.2          Sun Sep 18 15:24    still  
logged in  
linux      pts/4             :0                Sun Sep 18 15:13    still  
logged in  
linux      :0                :0                Sun Sep 18 14:49    still  
logged in  
linux      pts/0             10.0.2.2          Sun Sep 18 14:21    still  
logged in  
reboot     system boot      4.4.0-31-generic Sun Sep 18 14:19 - 17:26  
(03:06)  
linux      pts/17            10.0.2.2          Sun Sep 18 13:55 - down  
(00:21)  
linux      pts/17            :0                Sun Sep 18 13:45 - 13:46  
(00:00)  
linux      pts/6             :0                Sun Sep 18 12:25 - down
```


Assignment01

- **Prints word counts of files located in current directory**
 - Hint : wc
- **Compress a folder without using gzip**
 - Hint : tar
- **Sort all of files based on word count**
 - Hint : wc and pipe
- **Sort files in current directory based on file size**
 - Hint : sort
- **Print all of files containing “test” with ignoring case**
 - Test, TEST, TeST, TESTt
 - Hint : grep
- **Prints all of files containing “test” in all directories**
 - Hint : grep

Assignment02

- **Find all empty directories**
 - Hint : find
- **Find all of the files older than 7 days**
 - Hint : find
- **Remove all of the files older than 7 days**
 - Hint : find
- **Find files between 1MB and 2MB size**
 - Hint : find