

CSGE602055 Operating Systems
CSF2600505 Sistem Operasi
Minggu 01: IPR, SED, AWK, REGEX, & Scripting

Rahmat M. Samik-Ibrahim

Universitas Indonesia

<http://rms46.vlsm.org/2/207.html>

REV67 7-Sep-2017

Minggu 00	29 Aug - 05 Sep 2017	Intro & Review
Minggu 01	07 Sep - 12 Sep 2017	IPR, SED, AWK, REGEX, & Scripting
Minggu 02	14 Sep - 19 Sep 2017	Protection, Security, Privacy, & C-language
Minggu 03	26 Sep - 30 Sep 2017	BIOS, Loader, Systemd, & I/O
Minggu 04	03 Okt - 07 Okt 2017	Addressing, Shared Lib, Pointer & I/O Programming
Minggu 05	10 Okt - 14 Okt 2017	Virtual Memory
Ming. UTS	15 Okt - 24 Okt 2017	
Minggu 06	26 Okt - 31 Okt 2017	Concurrency: Processes & Threads
Minggu 07	02 Nov - 07 Nov 2017	Synchronization
Minggu 08	09 Nov - 14 Nov 2017	Scheduling & Network Sockets Programming
Minggu 09	16 Nov - 21 Nov 2017	File System & Persistent Storage
Minggu 10	23 Nov - 28 Nov 2017	Special Topic: Blockchain
Cadangan	30 Nov - 09 Des 2017	
Ming. UAS	10 Des - 23 Des 2017	

Agenda

- 1 Start
- 2 Agenda
- 3 Week 01
- 4 Free Software
- 5 Software Licenses
- 6 Scripting
- 7 Demo
- 8 Some Essential Commands
- 9 sed
- 10 awk
- 11 Regex
- 12 The End

Week 01: IPR, SED, AWK, REGEX, & Scripting

- Reference: (ETC 000 001 002)(OLD 02-HKI 02-scripting) (Any Related Tutorial)
- Hak Kekayaan Intelektual (HKI) — Intellectual Property Right (IPR)
 - <http://rms46.vlsm.org/1/70.pdf>
 - Konsep Hak Kekayaan Intelektual (HKI)
 - Rahasia Dagang (*Trade Sceret*) — UU no. 30/2000.
 - Desain Industri (*Industrial Design*) — UU no. 31/2000.
 - Desain Tata Letak Sirkuit Terpadu (*Integrated Circuit Layout Design*) — UU no. 32/2000.
 - Paten (*Patent*) — UU no. 14/2001.
 - Merek (*Mark*) — UU no. 15/2001.
 - Hak Cipta (*Copyright*) — UU no. 19/2002.
 - Konsekuensi HKI
 - HKI Perangkat Lunak
 - Lisensi Perangkat Lunak: GNU GPL, EULA. Public Domain, Apache, Microsoft Public License.

- Free Software Definition (FSF)

- ① The freedom to run the program as you wish, for any purpose (freedom 0).
- ① The freedom to study how the program works, and change it so it does your computing as you wish (freedom 1). Access to the source code is a precondition for this.
- ② The freedom to redistribute copies so you can help your neighbor (freedom 2).
- ③ The freedom to distribute copies of your modified versions to others (freedom 3). By doing this you can give the whole community a chance to benefit from your changes. Access to the source code is a precondition for this.

- Free Software vs. Open Source Software.

- Copyleft Software.

Software Licenses

- 3-clause BSD license and 2-clause BSD license (BSD-X-Clause)
- Apache License 2.0 (Apache-2.0)
- Artistic License 2.0 (ArtisticLicense2)
- Common Development and Distribution License (CDDL-1.0)
- Eclipse Public License (EPL-1.0)
- Educational Community License 2.0 (ECL2.0)
- Expat License (Expat) aka. MIT license (MIT)
- GNU Affero General Public License v3 (AGPL-3.0)
- GNU All-Permissive License (GNUAllPermissive)
- GNU General Public License (GPL)
- GNU Lesser General Public License (LGPL)
- Microsoft Public License (MS-PL)
- Mozilla Public License 2.0 (MPL-2.0)
- "Public Domain" (PublicDomain)
- X11 License (X11License)

- Readings (do Google!)
 - Machtelt Garrels: Bash Guide for Beginners.
 - Mendel Cooper: An in-depth exploration of the art of shell scripting — Advanced Bash-Scripting Guide.
 - Jan Goyvaerts: Regular Expressions — The Complete Tutorial.
- The ATM Way (Amati, Tiru, Modifikasi)¹.
 - Clone Demo <https://github.com/UI-FASILKOM-OS/demo.git>
 - ATM: Amati, Tiru, Modifikasi!
 - Pilih Media: Badak, BYOD, WSL (Windows 10), CYGWIN.
 - Belajar **login** dan **logout** dengan ssh atau putty².
 - Belajar editor yang bagus punya buatan (**vi**).
- Belajar beberapa perintah **Command-Line Interface (CLI)**.
 - shell (Bash)
 - basic CLI: cat, cd, cp, ls, man, more, mv, rm, touch, wc.
 - vi, sed, awk, git.

¹Romi Satria Wahono sudah menggunakan istilah ini sejak tahun 2007 (Google).

²Sesuai dengan keyakinan dan kepercayaan masing-masing.

Login into BADAk.cs.ui.ac.id

```
demo@badak:~$
demo@badak:~$ PS1=">>>> $ "
>>>> $
>>>> $ git clone https://github.com/UI-FASILKOM-OS/demo.git demo-here
Cloning into 'demo-here'...
remote: Counting objects: 1697, done.
remote: Compressing objects: 100% (64/64), done.
remote: Total 1697 (delta 52), reused 60 (delta 24), pack-reused 1608
Receiving objects: 100% (1697/1697), 11.87 MiB | 3.76 MiB/s, done.
Resolving deltas: 100% (1001/1001), done.

>>>> $ ls -F demo-here/
demos/          demos-170828-2222.zip  demostar.tgz  README.md
demos-170827-1833.zip  demos-170905-0943.zip  LICENSE       zzzThis
>>>> $ cd demo-here
>>>> $ ls -F
demos/          demos-170828-2222.zip  demostar.tgz  README.md
demos-170827-1833.zip  demos-170905-0943.zip  LICENSE       zzzThis
>>>> $ cd demos/
>>>> $ ls -F
week00-introduction/ week03-boot/          week06-CnFork/          week09-File-Storage-System/
week01-scripting/    week04-pointer-io/    week07-sync-thread/     week10-video-review/
week02-c-and-security/ week05-memory/        week08-scheduling-sockets/
>>>> $ cd week01-scripting/
```


Inside the "week01-scripting" folder

```
>>>> $ pwd
/home/demo/work/demo-here/demos/week01-scripting
>>>> $ ls -al
total 68
drwxr-xr-x  2 demo demo 4096 Sep  6 21:34 .
drwxr-xr-x 13 demo demo 4096 Sep  5 09:43 ..
-rw-r--r--  1 demo demo 3652 Sep  6 21:29 a01-sort-script
-rw-r--r--  1 demo demo 1638 Sep  6 21:25 a02-some-command-lines
-rw-r--r--  1 demo demo   83 Sep  4 19:16 a03-does-it-exist
-rw-r--r--  1 demo demo  222 Sep  4 19:16 a04-loop-script
-rw-r--r--  1 demo demo  448 Sep  4 19:16 a05-in-and-out
-rw-r--r--  1 demo demo  172 Sep  4 19:16 a06-sort-tmpfile
-rw-r--r--  1 demo demo   76 Sep  4 19:16 a07-pipe-and-sort
-rw-r--r--  1 demo demo  415 Sep  6 16:02 a08-env
-rw-r--r--  1 demo demo  380 Sep  4 19:16 a09-tester
-rw-r--r--  1 demo demo 2047 Sep  4 19:16 a10-banding
-rw-r--r--  1 demo demo 1959 Sep  4 19:16 a11-fixfs
-rw-r--r--  1 demo demo  241 Sep  4 19:16 a12-add-numbers
-rw-r--r--  1 demo demo  681 Sep  4 19:16 a13-mysha1
-rw-r--r--  1 demo demo   82 Sep  4 19:16 a14-awk
-rw-r--r--  1 demo demo  418 Sep  4 19:16 .head
lrwxrwxrwx  1 demo demo   15 Sep  4 19:16 .shsh -> a01-sort-script
>>>> $
```

Demo Files(1)

- a01-sort-script: folder sorting; preparing and deleting folder ".ZTEST".
- a02-some-command-lines: demo beberapa perintah CLI.
- a03-does-it-exist
- a04-loop-script
- a05-in-and-out
- a06-sort-tmpfile
- a07-pipe-and-sort
- a08-env

Demo Files(2)

- a09-tester
- a10-banding
- a11-fixfs
- a12-add-numbers
- a13-mysha1
- a14-awk

Some Essential Commands

man manual. Eg "man man"
ls list directory contents. Eg. "ls -al"
date print or set the system date and time. Eg. "date +%Y"
tee read from standard input and write to standard output and files.
 Eg. "ls -al | tee listing.txt"
diff compare files line by line. Eg. "diff file1.txt file2.txt"
wc print newline, word, and byte counts for each file.
 Eg. "wc file.txt"
sort sort lines of text files. Eg. "sort file1.txt"

- (to do)
- (see OLD 02-scripting)

- (to do)
- (see OLD 02-scripting)

- (to do)
- (see OLD 02-scripting)

The End

- This is the end of the presentation.