

# CSGE602055 Operating Systems

## CSF2600505 Sistem Operasi

### Minggu 01: IPR, SED, AWK, REGEX, & Scripting

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

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OS181 | X1 X2/X3 X4:00-X5:00 |

Y1 Y2/Y3 Y4:00-Y5:00 | Z1 Z2/Z3 Z4:00-Z5:00

Minggu 00	05 Feb - 10 Feb 2018	Intro & Review1
Minggu 01	12 Feb - 17 Feb 2018	Review2 & Scripting
Minggu 02	19 Feb - 24 Feb 2018	Protection, Security, Privacy, & C-language
Minggu 03	26 Feb - 03 Mar 2018	I/O, BIOS, Loader, & Systemd
Minggu 04	05 Mar - 10 Mar 2018	Addressing, Shared Lib, & Pointer
Minggu 05	12 Mar - 17 Mar 2018	Virtual Memory
Ming. UTS	26 Mar - 31 Mar 2018	(sementara)
Minggu 06	02 Apr - 07 Apr 2018	Concurrency: Processes & Threads
Minggu 07	09 Apr - 14 Apr 2018	Synchronization
Minggu 08	16 Apr - 21 Apr 2018	Scheduling
Minggu 09	23 Apr - 28 Apr 2018	File System & Persistent Storage
Minggu 10	30 Apr - 05 Mei 2018	I/O Programming & Network Sockets Programming
Cadangan	07 Mei - 12 Mei 2018	(sementara)
Ming. UAS	14 Mei - 26 Mei 2018	(sementara)

# Agenda

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- 2 Agenda
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- 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)<sup>1</sup>.
  - *Clone Demo* <https://github.com/UI-FASILKOM-OS/demo.git>
  - **GSGS** — **ATM**: Google Sana, Google Sini: Amati, Tiru, Modifikasi!
  - Pilih Media: Badak, BYOD, WSL (Windows 10), CYGWIN.
  - Belajar **login** dan **logout** dengan ssh atau putty<sup>2</sup>.
  - 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.

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<sup>1</sup>Romi Satria Wahono sudah menggunakan istilah ini sejak tahun 2007 (Google).

<sup>2</sup>Sesuai 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 60
drwxr-xr-x  2 demo demo 4096 Sep 11 15:28 .
drwxr-xr-x 13 demo demo 4096 Sep  5 09:43 ..
-rw-r--r--  1 demo demo 4817 Sep 11 15:16 a01-sort-script
-rw-r--r--  1 demo demo 2206 Sep 11 15:27 a02-some-command-lines
-rw-r--r--  1 demo demo  557 Sep  8 22:02 a03-does-it-exist
-rw-r--r--  1 demo demo  581 Sep 11 14:07 a04-finding-EXIST
-rw-r--r--  1 demo demo 1152 Sep 11 14:22 a05-append-a-file
-rw-r--r--  1 demo demo  549 Sep 11 14:25 a06-loop
-rw-r--r--  1 demo demo  745 Sep 11 14:45 a07-tester
-rw-r--r--  1 demo demo 1856 Sep 11 15:08 a08-banding
-rw-r--r--  1 demo demo 1779 Sep  8 21:57 a09-fixfs
-rw-r--r--  1 demo demo  614 Sep  8 21:58 a10-add-numbers
-rw-r--r--  1 demo demo 1068 Sep 11 15:20 a11-mysha1
-rw-r--r--  1 demo demo  367 Sep  8 21:59 .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-finding-EXIST
- a05-append-a-file
- a06-loop

# Demo Files(2)

- a07-tester
- a08-banding
- a09-fixfs
- a10-add-numbers
- a11-mysha1

# 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.