

(Lab 1) File system, Shell, Version control

CS2013 Systems Programming

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July 31, 2025

File System

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- Permissions: Owner, User, Group
- GUI is nice, why use Terminal ?

Bash

- Linux Shell
- Type commands, run them and see the output
- Difference with Python REPL
- Variants: **bash**, sh, ash, zsh
- Features
 - Tab for autocomplete
 - Search

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- `cd` - Change directory

How to specify a file (Absolute/Relative) ?

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- `.` = Current working directory
- `..` = Parent working directory

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 - /Documents

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- cat - View contents

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- mv - move a file
- cat - View contents
- tr - Modify contents
- echo (Shell built-in) = Python print()
- Redirection > and Appending >>
- nano (Simple text editor)
- chmod - change mode

General tips - I

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General tips - II

- Cancel anything typed ? **Ctrl+C to cancel**
- Run an earlier command again ? **Use up arrow key**
- Search for an earlier command ? **Ctrl + R** (reverse search)
- Clean screen ? **clear**
- Clear screen like a pro ? **Ctrl + L**

Secure Shell and Cryptography

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Understanding Git Version control

- `git add` – tell git that a file needs to be tracked
- `git commit` – tell git to store the changes (in its database)
- `git push` – store the changes in the git repo

Setting up a git repo

- If your roll number is 11223344

```
$ git clone git@gitserver:cs2013_11223344
```

- Git working correctly ? Run

```
$ git -T git@gitserver
```

Lab Exercise

- Question executable available at the address:
- Create a folder `bin` in home
- Download the file `CHECK` and copy to the folder `bin`.
- Open terminal and type

```
$ chmod +x bin/CHECK
```

- Then type

```
$ CHECK
```