

(Lab 1) File system, Shell, Version control

CS2013 Systems Programming

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File System

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- 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

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 - `~/Desktop`

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- What about this file ?
 - `/Documents`

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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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- `ssh-copy-id user@gitserver` Password: **fluffycat**

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
```