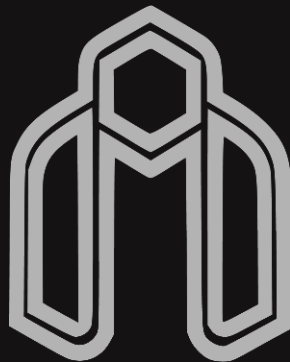بسم الله الرحمن الرحيم

LINUX COMMANDS

Feel free

Description of some Linux commands – Part VII
OS Laboratory – Exercise 7

Collected and Written by Mostafa Fazli

7 December 2021

alias

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alias

Aliases are like custom shortcuts used to represent a command (or set of commands) executed with or without custom options.

Structure:

alias [-p] [NAME[=VALUE] ...]

Define a alias:

alias lsl=' ls –ath'

Two command in a alias :

alias lsl='clear; ls –alth'

*This commands destroy when you log out.

```
    ~ ─────────────────────────────────── mostafafazli pop-os:pts/0 ─
  (11:19:57)──> alias                                    ─(Tue,Dec07)─
-='cd -'
...=../..
....=../../..
.....=../../../..
......=../../../../..
1='cd -1'
2='cd -2'
3='cd -3'
4='cd -4'
5='cd -5'
6='cd -6'
7='cd -7'
8='cd -8'
9='cd -9'
_='sudo '
afind='ack -il'
diff='diff --color'
egrep='egrep --color=auto --exclude-dir={.bzr,CVS,.git,.hg,.svn,.idea,.tox}'
fgrep='fgrep --color=auto --exclude-dir={.bzr,CVS,.git,.hg,.svn,.idea,.tox}'
g=git
ga='git add'
gaa='git add --all'
gam='git am'
gama='git am --abort'
gamc='git am --continue'
gams='git am --skip'
gamscp='git am --show-current-patch'
gap='git apply'
gapa='git add --patch'
gapt='git apply --3way'
gau='git add --update'
gav='git add --verbose'
```

mostafafazli@pop-os:~ | 127x34 | pts/0

```
  ~ ───────────────────────────────────────────── mostafafazli pop-os:pts/0
 (11:34:32)──> alias lls="ls -alth"                          (Tue,Dec07)
  ~ ───────────────────────────────────────────── mostafafazli pop-os:pts/0
 (11:35:23)──> lls                                           (Tue,Dec07)
total 256K
drwxr-xr-x 18 mostafafazli mostafafazli 4.0K Dec  7 11:35 .
-rw-------  1 mostafafazli mostafafazli 4.8K Dec  7 11:35 .zsh_history
drwxr-xr-x  2 mostafafazli mostafafazli 4.0K Dec  7 11:33 Pictures
drwx------ 21 mostafafazli mostafafazli 4.0K Dec  7 11:19 .cache
-rw-r-----  1 mostafafazli mostafafazli    5 Dec  7 11:17 .vboxclient-display-svga-x11.pid
-rw-r-----  1 mostafafazli mostafafazli    5 Dec  7 11:17 .vboxclient-draganddrop.pid
-rw-r-----  1 mostafafazli mostafafazli    5 Dec  7 11:17 .vboxclient-seamless.pid
-rw-r-----  1 mostafafazli mostafafazli    5 Dec  7 11:17 .vboxclient-clipboard.pid
-rw-------  1 mostafafazli mostafafazli  16K Nov 30 14:10 .viminfo
drwx------  3 mostafafazli mostafafazli 4.0K Nov 30 12:40 .gnupg
-rw-r--r--  1 mostafafazli mostafafazli 3.8K Nov 30 03:40 .zshrc
-rw-------  1 mostafafazli mostafafazli  633 Nov 29 22:58 .bash_history
drwx------ 16 mostafafazli mostafafazli 4.0K Nov 29 22:52 .config
-rw-r--r--  1 mostafafazli mostafafazli  50K Nov 29 22:24 .zcompdump-pop-os-5.8
-rw-r--r--  1 mostafafazli mostafafazli  49K Nov 29 22:24 .zcompdump
-rw-r--r--  1 mostafafazli mostafafazli   10 Nov 29 22:24 .shell.pre-oh-my-zsh
drwxr-xr-x 12 mostafafazli mostafafazli 4.0K Nov 29 22:24 .oh-my-zsh
-rw-rw-r--  1 mostafafazli mostafafazli  180 Nov 29 22:23 .wget-hsts
drwx------  3 mostafafazli mostafafazli 4.0K Nov 29 22:22 .pki
-rw-------  1 mostafafazli mostafafazli  12K Nov 29 22:22 .swp
drwxr-xr-x  3 mostafafazli mostafafazli 4.0K Nov 29 22:16 Documents
-rw-r--r--  1 mostafafazli mostafafazli    0 Nov 22 23:19 .sudo_as_admin_successful
drwx------  2 mostafafazli mostafafazli 4.0K Nov 22 23:18 .ssh
drwxr-xr-x  2 mostafafazli mostafafazli 4.0K Nov 22 23:17 Downloads
drwx------  5 mostafafazli mostafafazli 4.0K Nov 22 23:13 .mozilla
drwxr-xr-x  2 mostafafazli mostafafazli 4.0K Nov 22 23:03 Desktop
drwxr-xr-x  2 mostafafazli mostafafazli 4.0K Nov 22 23:03 Music
drwxr-xr-x  2 mostafafazli mostafafazli 4.0K Nov 22 23:03 Public
drwxr-xr-x  2 mostafafazli mostafafazli 4.0K Nov 22 23:03 Templates
```
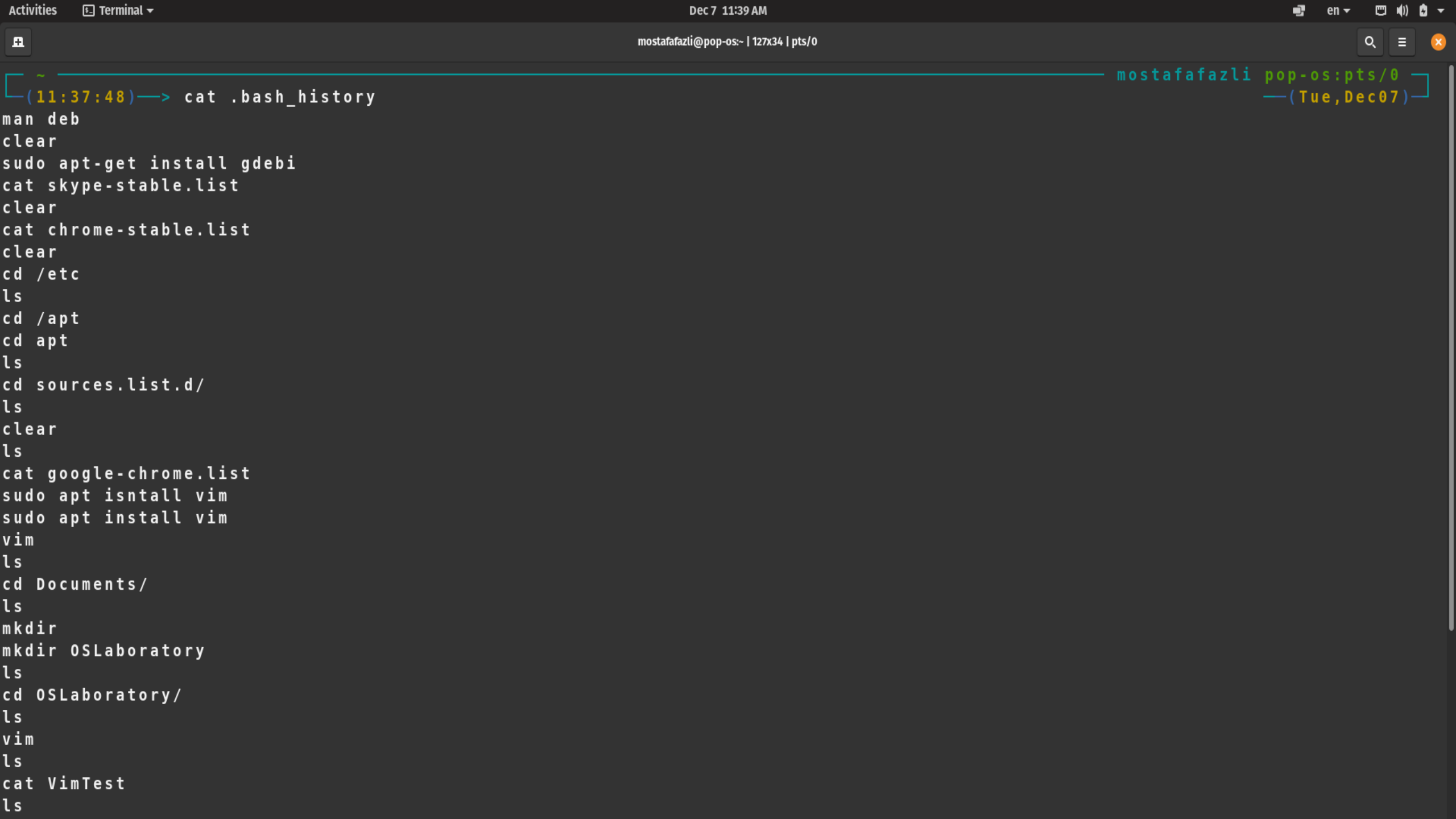
.bash_history

If you want to see history of bash commands you can use .bash_history to see them.

You can see this file with cat.

```
 ~                                                        mostafafazli pop-os:pts/0
(11:37:48)──> cat .bash_history                                        (Tue,Dec07)
man deb
clear
sudo apt-get install gdebi
cat skype-stable.list
clear
cat chrome-stable.list
clear
cd /etc
ls
cd /apt
cd apt
ls
cd sources.list.d/
ls
clear
ls
cat google-chrome.list
sudo apt isntall vim
sudo apt install vim
vim
ls
cd Documents/
ls
mkdir
mkdir OSLaboratory
ls
cd OSLaboratory/
ls
vim
ls
cat VimTest
ls
```

.bashrc

.bashrc is a Bash shell script that Bash runs whenever it is started interactively. It initializes an interactive shell session. You can put any command in that file that you could type at the command prompt.

In bashrc have some functions that run.

You can see or edit bashrc with vim, nano or cat.

```
-rw-------   1 mostafafazli mostafafazli  12K Nov 29 22:22 .swp
drwxr-xr-x   3 mostafafazli mostafafazli 4.0K Nov 29 22:16 Documents
-rw-r--r--   1 mostafafazli mostafafazli    0 Nov 22 23:19 .sudo_as_admin_successful
drwx------   2 mostafafazli mostafafazli 4.0K Nov 22 23:18 .ssh
drwxr-xr-x   2 mostafafazli mostafafazli 4.0K Nov 22 23:17 Downloads
drwx------   5 mostafafazli mostafafazli 4.0K Nov 22 23:13 .mozilla
drwxr-xr-x   2 mostafafazli mostafafazli 4.0K Nov 22 23:03 Desktop
drwxr-xr-x   2 mostafafazli mostafafazli 4.0K Nov 22 23:03 Music
drwxr-xr-x   2 mostafafazli mostafafazli 4.0K Nov 22 23:03 Public
drwxr-xr-x   2 mostafafazli mostafafazli 4.0K Nov 22 23:03 Templates
drwxr-xr-x   2 mostafafazli mostafafazli 4.0K Nov 22 23:03 Videos
drwxr-xr-x   3 mostafafazli mostafafazli 4.0K Nov 22 23:03 .local
drwxr-xr-x   3 root         root         4.0K Nov 22 22:59 ..
-rw-r--r--   1 mostafafazli mostafafazli  220 Feb 25  2020 .bash_logout
-rw-r--r--   1 mostafafazli mostafafazli 3.7K Feb 25  2020 .bashrc
-rw-r--r--   1 mostafafazli mostafafazli  807 Feb 25  2020 .profile
     ~                                                          mostafafazli pop-os:pts/0
   (11:36:40)──> cat .bashrc                                    (Tue,Dec07)
# ~/.bashrc: executed by bash(1) for non-login shells.
# see /usr/share/doc/bash/examples/startup-files (in the package bash-doc)
# for examples

# If not running interactively, don't do anything
case $- in
    *i*) ;;
      *) return;;
esac


# don't put duplicate lines or lines starting with space in the history.
# See bash(1) for more options
HISTCONTROL=ignoreboth

# append to the history file, don't overwrite it
shopt -s histappend
```

similar commands

You can see ufw status with three ways:

1. /etc/init.d/ufw status => older
2. Service ufw status =>old
3. Systemctl status ufw.service => newer and usually use this

All of three commands are same,

```
Activities        Terminal ▾                    Dec 7 11:40 AM

                mostafafazli@pop-os:~ | 127x34 | pts/0

  ~ ─────────────────────────────────── m o s t a f a f a z l i  pop-os:pts/0 ─
 (11:40:10)──> /etc/init.d/ufw status                          ──(Tue,Dec07)─
● ufw.service - Uncomplicated firewall
     Loaded: loaded (/lib/systemd/system/ufw.service; enabled; vendor preset: enabled)
     Active: active (exited) since Tue 2021-12-07 11:17:24 +0330; 22min ago
       Docs: man:ufw(8)
    Process: 382 ExecStart=/lib/ufw/ufw-init start quiet (code=exited, status=0/SUCCESS)
   Main PID: 382 (code=exited, status=0/SUCCESS)

Warning: journal has been rotated since unit was started, output may be incomplete.
  ~ ─────────────────────────────────── m o s t a f a f a z l i  pop-os:pts/0 ─
 (11:40:12)──> service ufw status                              ──(Tue,Dec07)─
● ufw.service - Uncomplicated firewall
     Loaded: loaded (/lib/systemd/system/ufw.service; enabled; vendor preset: enabled)
     Active: active (exited) since Tue 2021-12-07 11:17:24 +0330; 22min ago
       Docs: man:ufw(8)
    Process: 382 ExecStart=/lib/ufw/ufw-init start quiet (code=exited, status=0/SUCCESS)
   Main PID: 382 (code=exited, status=0/SUCCESS)

Warning: journal has been rotated since unit was started, output may be incomplete.
  ~ ─────────────────────────────────── m o s t a f a f a z l i  pop-os:pts/0 ─
 (11:40:21)──> systemctl status ufw.service                    ──(Tue,Dec07)─
● ufw.service - Uncomplicated firewall
     Loaded: loaded (/lib/systemd/system/ufw.service; enabled; vendor preset: enabled)
     Active: active (exited) since Tue 2021-12-07 11:17:24 +0330; 23min ago
       Docs: man:ufw(8)
    Process: 382 ExecStart=/lib/ufw/ufw-init start quiet (code=exited, status=0/SUCCESS)
   Main PID: 382 (code=exited, status=0/SUCCESS)

Warning: journal has been rotated since unit was started, output may be incomplete.
  ~ ─────────────────────────────────── m o s t a f a f a z l i  pop-os:pts/0 ─
 (11:40:40)──> □                                               ──(Tue,Dec07)─
```

bash scripts

Suffix of Bash scripts is .sh,

We can use this bash scripts for programming with bash,

For example you can create bash file and open and edit that with nano or vim, echo Hello bash !!! Ans save it,

After that when you get executable permission and run it, it shows you Hello Bash !!!.

Besides that, you can open file with "sh –x bashname.sh" for debug and review the code of script.

In bash scripts, you should pay attention to distance of word, spaces and tabs, because it sensitive to indents.

mostafafazli@pop-os:~/Documents | 127x34 | pts/0

```
drwx------   5 mostafafazli mostafafazli 4.0K Nov 22 23:13 .mozilla
drwxr-xr-x   2 mostafafazli mostafafazli 4.0K Nov 22 23:03 Desktop
drwxr-xr-x   2 mostafafazli mostafafazli 4.0K Nov 22 23:03 Music
drwxr-xr-x   2 mostafafazli mostafafazli 4.0K Nov 22 23:03 Public
drwxr-xr-x   2 mostafafazli mostafafazli 4.0K Nov 22 23:03 Templates
drwxr-xr-x   2 mostafafazli mostafafazli 4.0K Nov 22 23:03 Videos
drwxr-xr-x   3 mostafafazli mostafafazli 4.0K Nov 22 23:03 .local
drwxr-xr-x   3 root         root         4.0K Nov 22 22:59 ..
-rw-r--r--   1 mostafafazli mostafafazli  220 Feb 25  2020 .bash_logout
-rw-r--r--   1 mostafafazli mostafafazli 3.7K Feb 25  2020 .bashrc
-rw-r--r--   1 mostafafazli mostafafazli  807 Feb 25  2020 .profile
```

┌─ ~ ──────────────────────────────────── mostafafazli pop-os:pts/0
└─(11:42:15)──> cd Documents ───────────────────────────(Tue,Dec07)
┌─ ~/Documents ──────────────────────────── mostafafazli pop-os:pts/0
└─(11:42:33)──> ll ─────────────────────────────────────(Tue,Dec07)

```
total 4.0K
drwxrwxr-x 4 mostafafazli mostafafazli 4.0K Nov 30 13:52 OSLaboratory
```

┌─ ~/Documents ──────────────────────────── mostafafazli pop-os:pts/0
└─(11:42:36)──> vim app.sh ─────────────────────────────(Tue,Dec07)
┌─ ~/Documents ──────────────────────────── mostafafazli pop-os:pts/0
└─(11:43:24)──> ll ─────────────────────────────────────(Tue,Dec07)

```
total 8.0K
-rw-rw-r-- 1 mostafafazli mostafafazli   55 Dec  7 11:43 app.sh
drwxrwxr-x 4 mostafafazli mostafafazli 4.0K Nov 30 13:52 OSLaboratory
```

┌─ ~/Documents ──────────────────────────── mostafafazli pop-os:pts/0
└─(11:43:26)──> ./app.sh ───────────────────────────────(Tue,Dec07)

```
zsh: permission denied: ./app.sh
```

┌─ ~/Documents ──────────────────────────── mostafafazli pop-os:pts/0
└─(11:43:33)──> chmod a+x app.sh ──────────────────126 ↵──(Tue,Dec07)
┌─ ~/Documents ──────────────────────────── mostafafazli pop-os:pts/0
└─(11:43:43)──> ./app.sh ───────────────────────────────(Tue,Dec07)

```
hello, This is a test for OS laboratory Exercise
```

┌─ ~/Documents ──────────────────────────── mostafafazli pop-os:pts/0
└─(11:43:48)──> ▯ ──────────────────────────────────────(Tue,Dec07)

backup

You can make backup with tar file.

You can backup a directory to another directory,

Date format

You can see date formats with "man date",

In this command you can see various of date formats.

For example :

%H for Hour, %M for Minuets and %S for seconds.

%Y for year, %m for months and etc…

FORMAT controls the output. Interpreted sequences are:

%%   a literal %

%a   locale's abbreviated weekday name (e.g., Sun)

%A   locale's full weekday name (e.g., Sunday)

%b   locale's abbreviated month name (e.g., Jan)

%B   locale's full month name (e.g., January)

%c   locale's date and time (e.g., Thu Mar 3 23:05:25 2005)

%C   century; like %Y, except omit last two digits (e.g., 20)

%d   day of month (e.g., 01)

%D   date; same as %m/%d/%y

%e   day of month, space padded; same as %_d

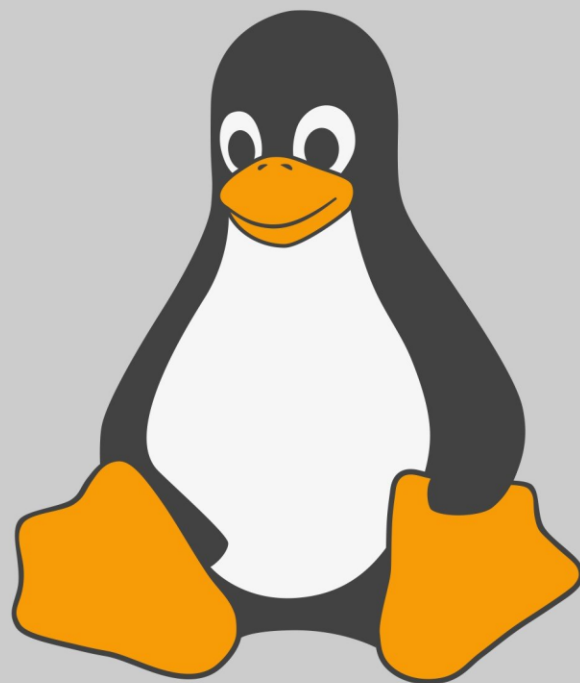%F   full date; same as %Y-%m-%d

%g   last two digits of year of ISO week number (see %G)

%G   year of ISO week number (see %V); normally useful only with %V

%h   same as %b

%H   hour (00..23)

%I   hour (01..12)