

**UJIAN AKHIR SEMESTER**  
**PRAKTIKUM SISTEM OPERASI**



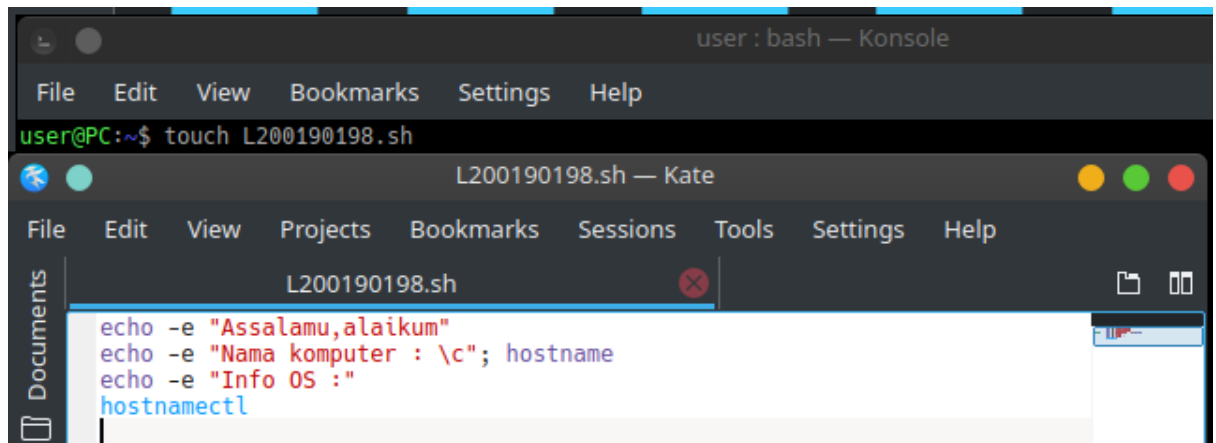
**Disusun oleh:**

**AFIFAH GH AISANI IMANA**

**L200190198**

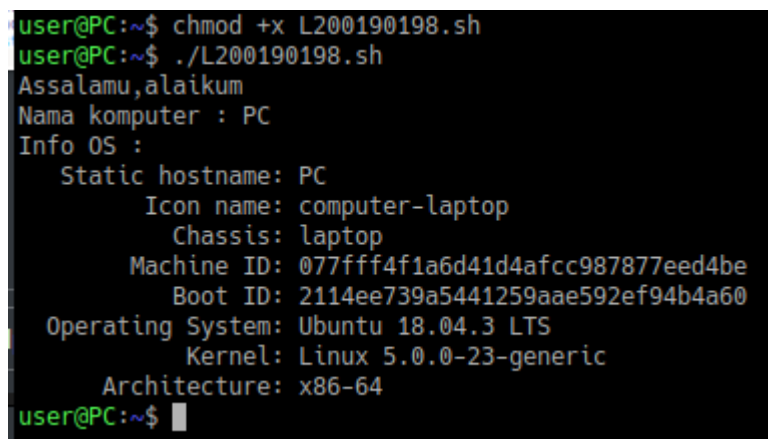
**PROGRAM STUDI TEKNIK INFORMATIKA**  
**FAKULTAS KOMUNIKASI DAN INFORMATIKA**  
**UNIVERSITAS MUHAMMADIYAH SURAKARTA**  
**TAHUN 2019/2020**

1. Buatlah file <nim>.sh untuk menampilkan informasi:
  - a. Mencetak “Assalamu,alaikum”, nama komputer, info OS



The image shows two windows. The top window is a terminal titled 'user : bash — Konsole' with a menu bar (File, Edit, View, Bookmarks, Settings, Help). It shows the command `user@PC:~$ touch L200190198.sh`. The bottom window is a text editor titled 'L200190198.sh — Kate' with a menu bar (File, Edit, View, Projects, Bookmarks, Sessions, Tools, Settings, Help). It shows the contents of the file `L200190198.sh`:

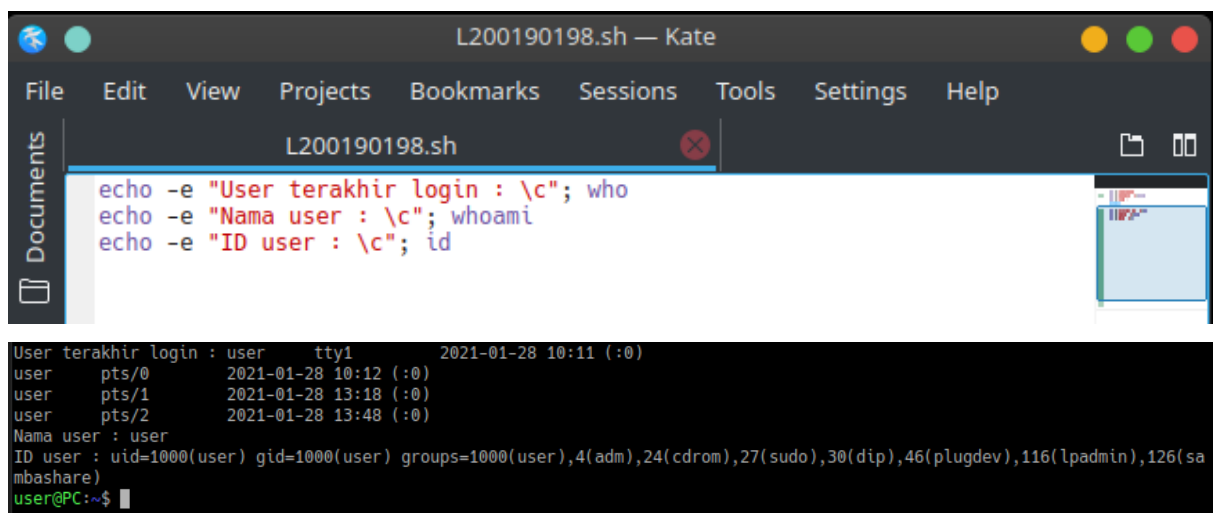
```
echo -e "Assalamu,alaikum"
echo -e "Nama komputer : \c"; hostname
echo -e "Info OS : "
hostnamectl
```



The image shows a terminal window with the following output:

```
user@PC:~$ chmod +x L200190198.sh
user@PC:~$ ./L200190198.sh
Assalamu,alaikum
Nama komputer : PC
Info OS :
Static hostname: PC
Icon name: computer-laptop
Chassis: laptop
Machine ID: 077fff4f1a6d41d4afcc987877eed4be
Boot ID: 2114ee739a5441259aae592ef94b4a60
Operating System: Ubuntu 18.04.3 LTS
Kernel: Linux 5.0.0-23-generic
Architecture: x86-64
user@PC:~$
```

- b. User terakhir yang login, nama user, id



The image shows two windows. The top window is a text editor titled 'L200190198.sh — Kate' with a menu bar (File, Edit, View, Projects, Bookmarks, Sessions, Tools, Settings, Help). It shows the updated contents of the file `L200190198.sh`:

```
echo -e "User terakhir login : \c"; who
echo -e "Nama user : \c"; whoami
echo -e "ID user : \c"; id
```

The bottom window is a terminal showing the output of the script:

```
User terakhir login : user      tty1      2021-01-28 10:11 (:0)
user pts/0      2021-01-28 10:12 (:0)
user pts/1      2021-01-28 13:18 (:0)
user pts/2      2021-01-28 13:48 (:0)
Nama user : user
ID user : uid=1000(user) gid=1000(user) groups=1000(user),4(adm),24(cdrom),27(sudo),30(dip),46(plugdev),116(lpadmin),126(sambashare)
user@PC:~$
```

2. Dengan terminal di linux kerjakanlah soal dibawah ini:

a. Menggunakan terminal buatlah directory dengan nim masing-masing!

No	User	Group	other
1	Rw-	r--	r-x
2	--x	-w-	Rwx
3	rwX	---	-wX
4	-w-	-w-	-w-
5	rwX	Rwx	Rwx

```
UAS : l
File Edit View Bookmarks Settings Help
user@PC:~$ mkdir UAS
user@PC:~$ cd UAS
user@PC:~/UAS$ mkdir L200190198
user@PC:~/UAS$ chmod 645 L200190198
user@PC:~/UAS$ ls -l
total 4
drw-r--r-x 2 user user 4096 Jan 28 13:18 L200190198
user@PC:~/UAS$ chmod 127 L200190198
user@PC:~/UAS$ ls -l
total 4
d--x-w-rwx 2 user user 4096 Jan 28 13:18 L200190198
user@PC:~/UAS$ chmod 703 L200190198
user@PC:~/UAS$ ls -l
total 4
drwx---wx 2 user user 4096 Jan 28 13:18 L200190198
user@PC:~/UAS$ chmod 222 L200190198
user@PC:~/UAS$ ls -l
total 4
d-w--w--w- 2 user user 4096 Jan 28 13:18 L200190198
user@PC:~/UAS$ chmod 777 L200190198
user@PC:~/UAS$ ls -l
total 4
drwxrwxrwx 2 user user 4096 Jan 28 13:18 L200190198
user@PC:~/UAS$
```

- b. Ubahlah permissian seperti gambar dibawah ini

No	User	Group	Other
1	-w-	Rw-	r-x
2	Rw-	Rw-	Rw-
3	rwX	RwX	RwX
4	-wX	-w-	-wX
5	--X	-wX	--X

```
user@PC:~/UAS$ chmod 000 L200190198
user@PC:~/UAS$ ls -l
total 4
d----- 2 user user 4096 Jan 28 13:18 L200190198
user@PC:~/UAS$ chmod 265 L200190198
user@PC:~/UAS$ ls -l
total 4
d-w-rw-r-x 2 user user 4096 Jan 28 13:18 L200190198
user@PC:~/UAS$ chmod 666 L200190198
user@PC:~/UAS$ ls -l
total 4
drw-rw-rw- 2 user user 4096 Jan 28 13:18 L200190198
user@PC:~/UAS$ chmod 777 L200190198
user@PC:~/UAS$ ls -l
total 4
drwxrwxrwx 2 user user 4096 Jan 28 13:18 L200190198
user@PC:~/UAS$ chmod 323 L200190198
user@PC:~/UAS$ ls -l
total 4
d-wx-w--wx 2 user user 4096 Jan 28 13:18 L200190198
user@PC:~/UAS$ chmod 131 L200190198
user@PC:~/UAS$ ls -l
total 4
d--x-wx--x 2 user user 4096 Jan 28 13:18 L200190198
user@PC:~/UAS$
```

3. Jelaskan langkah memasang aplikasi pada Linux OS menggunakan terminal!  
(2 aplikasi)

- a. Aplikasi pemutar video

Langkah :

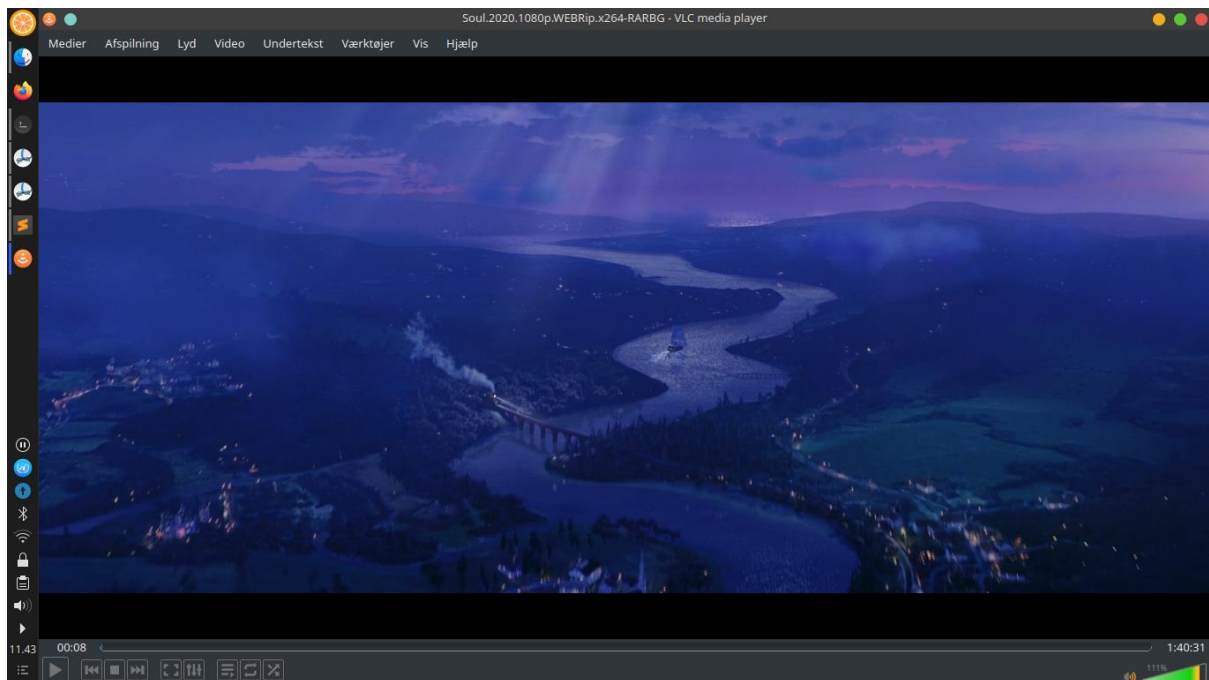
- Buka terminal pada linux
- Ketik “sudo apt-get install vlc”
- Ketika muncul pilihan [y/n], ketik “y”

## Contoh kode :

```
user@PC:~$ sudo apt-get install vlc
Indlæser pakkelisterne... Færdig
Opbygger afhængighedstræ
Læser tilstandsoplysninger... Færdig
De følgende yderligere pakker vil blive installeret:
  libvlc-bin libvlc5 libvlccore9 vlc-bin vlc-data vlc-l10n vlc-plugin-base vlc-plugin-notify vlc-plugin-qt vlc-plugin-samba vlc-plugin-skins2 vlc-plugin-video-output
  vlc-plugin-video-splitter vlc-plugin-visualization
Foreslåede pakker:
  libavcodec2
Følgende NYE pakker vil blive installeret:
  vlc
Følgende pakker vil blive opgraderet:
  libvlc-bin libvlc5 libvlccore9 vlc-bin vlc-data vlc-l10n vlc-plugin-base vlc-plugin-notify vlc-plugin-qt vlc-plugin-samba vlc-plugin-skins2 vlc-plugin-video-output
  vlc-plugin-video-splitter vlc-plugin-visualization
14 opgraderes, 1 nyinstalleres, 0 afinstalleres og 734 opgraderes ikke.
0 B/11,4 MB skal hentes fra arkiverne.
Efter denne handling, vil 232 kB yderligere diskplads være brugt.
Vil du fortsætte? [Y/n] y
(Læser database ... 196351 filer og kataloger installeret i øjeblikket.)
Gør klar til at udpakke .../00-libvlccore9_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker libvlccore9:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../01-libvlc5_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker libvlc5:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../02-vlc-bin_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker vlc-bin (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../03-libvlc-bin_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker libvlc-bin:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Udpakker vlc-plugin-skins2:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Udpakker vlc-plugin-skins2:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../05-vlc-plugin-qt_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker vlc-plugin-qt:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../06-vlc-plugin-video-output_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker vlc-plugin-video-output:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../07-vlc-l10n_3.0.8-0ubuntu18.04.1_all.deb ...
Udpakker vlc-l10n (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../08-vlc-plugin-base_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker vlc-plugin-base:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../09-vlc-data_3.0.8-0ubuntu18.04.1_all.deb ...
Udpakker vlc-data (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Vælger tidligere fravalgt pakke vlc.
Gør klar til at udpakke .../10-vlc_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker vlc (3.0.8-0ubuntu18.04.1) ...
Gør klar til at udpakke .../11-vlc-plugin-notify_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker vlc-plugin-notify:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../12-vlc-plugin-samba_3.0.8-0ubuntu18.04.1_amd64.deb ...
```

```
Gør klar til at udpakke .../04-vlc-plugin-skins2_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker vlc-plugin-skins2:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../05-vlc-plugin-qt_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker vlc-plugin-qt:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../06-vlc-plugin-video-output_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker vlc-plugin-video-output:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../07-vlc-l10n_3.0.8-0ubuntu18.04.1_all.deb ...
Udpakker vlc-l10n (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../08-vlc-plugin-base_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker vlc-plugin-base:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../09-vlc-data_3.0.8-0ubuntu18.04.1_all.deb ...
Udpakker vlc-data (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Vælger tidligere fravalgt pakke vlc.
Gør klar til at udpakke .../10-vlc_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker vlc (3.0.8-0ubuntu18.04.1) ...
Gør klar til at udpakke .../11-vlc-plugin-notify_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker vlc-plugin-notify:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../12-vlc-plugin-samba_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker vlc-plugin-samba:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../13-vlc-plugin-video-splitter_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker vlc-plugin-video-splitter:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Gør klar til at udpakke .../14-vlc-plugin-visualization_3.0.8-0ubuntu18.04.1_amd64.deb ...
Udpakker vlc-plugin-visualization:amd64 (3.0.8-0ubuntu18.04.1) over (3.0.7.1-0ubuntu18.04.1) ...
Behandler udløsere for mime-support (3.60ubuntu1) ...
Sætter vlc-data (3.0.8-0ubuntu18.04.1) op ...
Sætter vlc-l10n (3.0.8-0ubuntu18.04.1) op ...
Behandler udløsere for libc-bin (2.27-3ubuntu1) ...
Sætter libvlccore9:amd64 (3.0.8-0ubuntu18.04.1) op ...
Sætter vlc-plugin-video-splitter:amd64 (3.0.8-0ubuntu18.04.1) op ...
Behandler udløsere for man-db (2.8.3-2ubuntu0.1) ...
Sætter vlc-plugin-visualization:amd64 (3.0.8-0ubuntu18.04.1) op ...
Sætter vlc-plugin-notify:amd64 (3.0.8-0ubuntu18.04.1) op ...
Behandler udløsere for hicolor-icon-theme (0.17-2) ...
Sætter vlc-plugin-base:amd64 (3.0.8-0ubuntu18.04.1) op ...
Sætter libvlc5:amd64 (3.0.8-0ubuntu18.04.1) op ...
Sætter vlc-plugin-samba:amd64 (3.0.8-0ubuntu18.04.1) op ...
Sætter vlc-plugin-qt:amd64 (3.0.8-0ubuntu18.04.1) op ...
Sætter vlc-plugin-video-output:amd64 (3.0.8-0ubuntu18.04.1) op ...
Sætter libvlc-bin:amd64 (3.0.8-0ubuntu18.04.1) op ...
Sætter vlc-plugin-skins2:amd64 (3.0.8-0ubuntu18.04.1) op ...
Sætter vlc-bin (3.0.8-0ubuntu18.04.1) op ...
Sætter vlc (3.0.8-0ubuntu18.04.1) op ...
Behandler udløsere for libc-bin (2.27-3ubuntu1) ...
Behandler udløsere for libvlc-bin:amd64 (3.0.8-0ubuntu18.04.1) ...
user@PC:~$ █
```

## Tampilan Aplikasi VLC :



### b. Aplikasi file editor

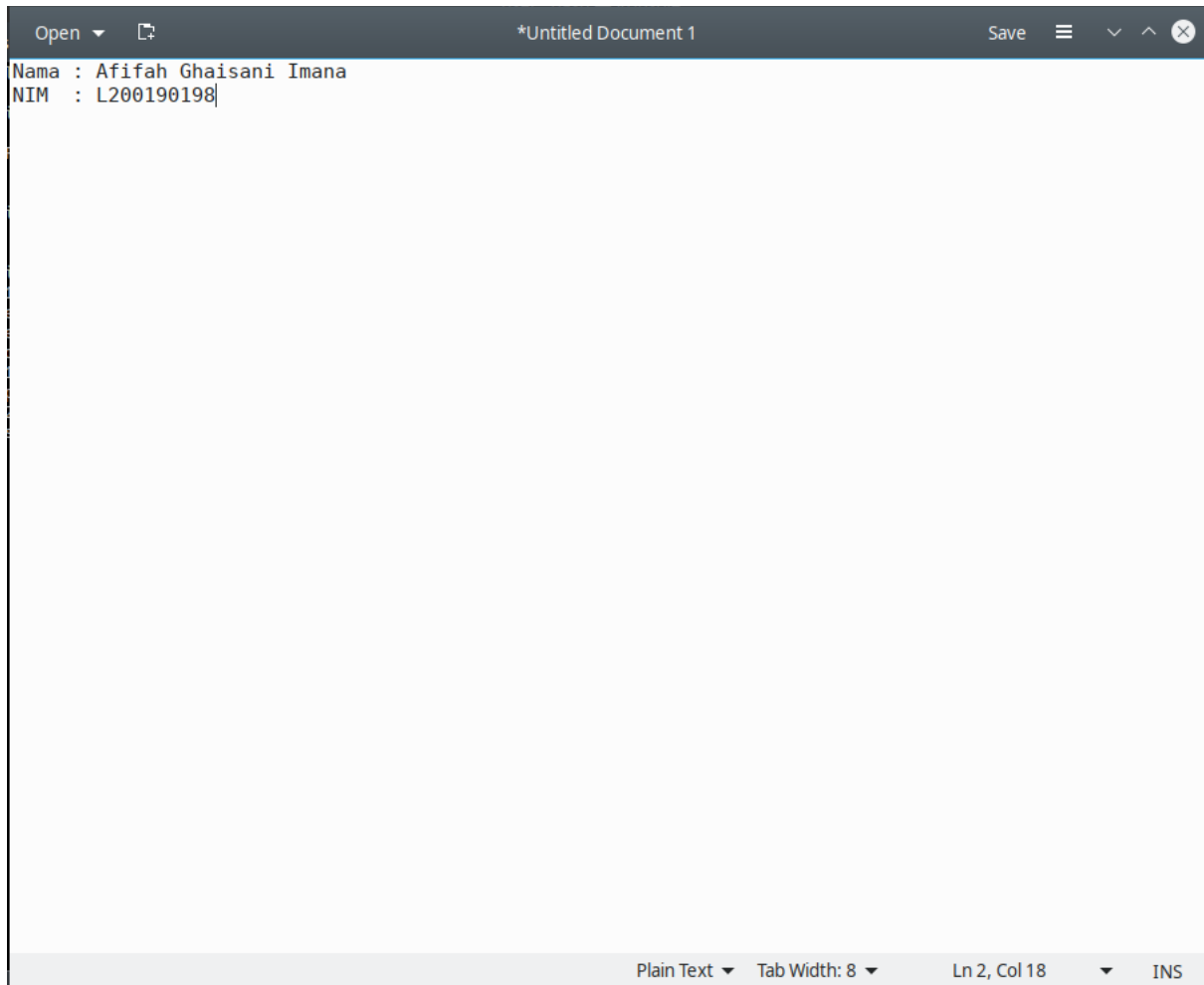
Langkah :

- Buka terminal pada linux
- Ketik "sudo apt-get install gedit"
- Ketika muncul pilihan [y/n], ketik "y"

Contoh kode :

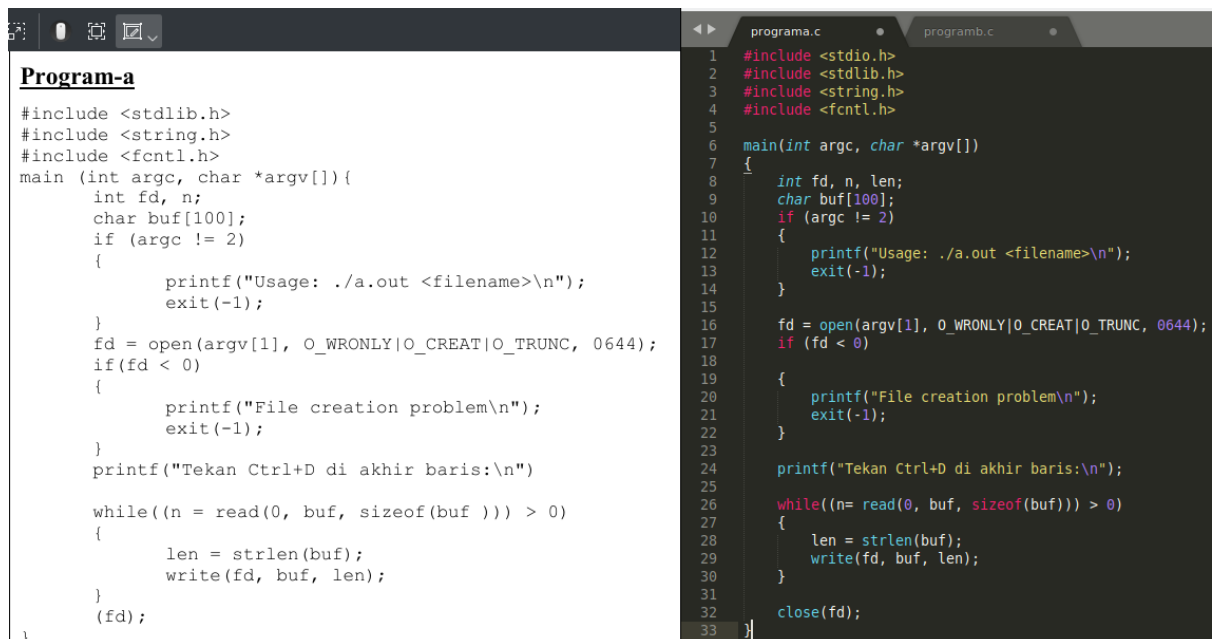
```
user@PC:~$ sudo apt-get install gedit
[sudo] password for user:
Indlæser pakkelisterne... Færdig
Opbygger afhængighedstræ
Læser tilstandsoplysninger... Færdig
Foreslåede pakker:
  gedit-plugins
Følgende NYE pakker vil blive installeret:
  gedit
0 opgraderes, 1 nyinstalleres, 0 afinstalleres og 748 opgraderes ikke.
0 B/408 kB skal hentes fra arkiverne.
Efter denne handling, vil 1.891 kB yderligere diskplads være brugt.
Vælger tidligere fravalgt pakke gedit.
(Læser database ... 196278 filer og kataloger installeret i øjeblikket.)
Gør klar til at udpakke .../gedit_3.28.1-1ubuntu1.2_amd64.deb ...
Udpakker gedit (3.28.1-1ubuntu1.2) ...
Behandler udlødere for mime-support (3.60ubuntu1) ...
Sætter gedit (3.28.1-1ubuntu1.2) op ...
update-alternatives: bruger /usr/bin/gedit til at give /usr/bin/gnome-text-editor (gnome-text-editor) i a
utomatisk tilstand
user@PC:~$
```

## Tampilan Aplikasi Gedit :



4. Lakukan perbaikan pada program tersebut agar bisa dijalankan, selanjutnya tampilkan hasil eksekusi program tersebut!

### Program-a

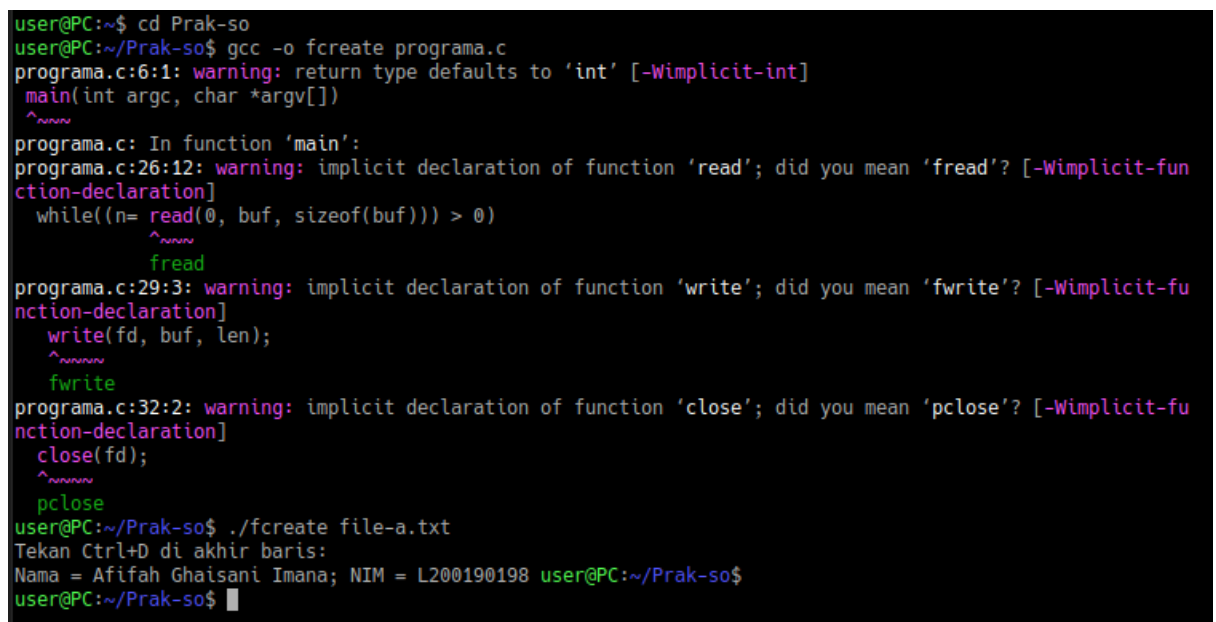


```
Program-a
#include <stdlib.h>
#include <string.h>
#include <fcntl.h>
main (int argc, char *argv[]){
    int fd, n;
    char buf[100];
    if (argc != 2)
    {
        printf("Usage: ./a.out <filename>\n");
        exit(-1);
    }
    fd = open(argv[1], O_WRONLY|O_CREAT|O_TRUNC, 0644);
    if(fd < 0)
    {
        printf("File creation problem\n");
        exit(-1);
    }
    printf("Tekan Ctrl+D di akhir baris:\n")
    while((n = read(0, buf, sizeof(buf))) > 0)
    {
        len = strlen(buf);
        write(fd, buf, len);
    }
    (fd);
}

programa.c
1 #include <stdio.h>
2 #include <stdlib.h>
3 #include <string.h>
4 #include <fcntl.h>
5
6 main(int argc, char *argv[])
7 {
8     int fd, n, len;
9     char buf[100];
10    if (argc != 2)
11    {
12        printf("Usage: ./a.out <filename>\n");
13        exit(-1);
14    }
15
16    fd = open(argv[1], O_WRONLY|O_CREAT|O_TRUNC, 0644);
17    if (fd < 0)
18    {
19        printf("File creation problem\n");
20        exit(-1);
21    }
22
23    printf("Tekan Ctrl+D di akhir baris:\n");
24
25    while((n= read(0, buf, sizeof(buf))) > 0)
26    {
27        len = strlen(buf);
28        write(fd, buf, len);
29    }
30
31    close(fd);
32
33 }
```

(Kode yang benar berada di sisi kanan, nama file = programa.c)

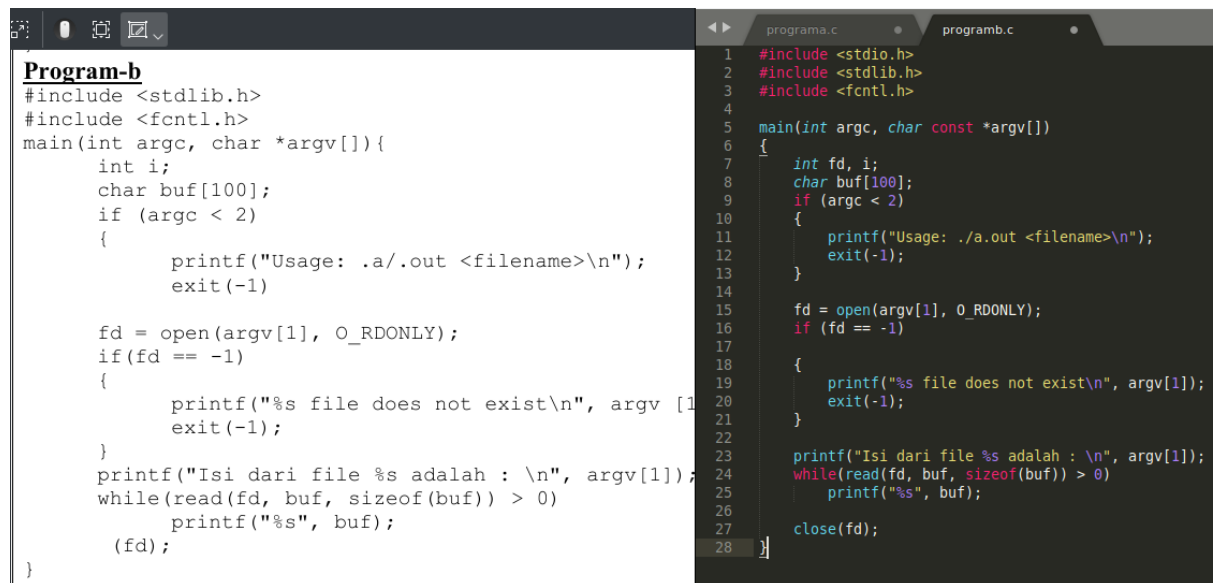
Tampilkan hasil eksekusi Program-a :



```
user@PC:~$ cd Prak-so
user@PC:~/Prak-so$ gcc -o fcreate programa.c
programa.c:6:1: warning: return type defaults to 'int' [-Wimplicit-int]
main(int argc, char *argv[])
^~~~~~
programa.c: In function 'main':
programa.c:26:12: warning: implicit declaration of function 'read'; did you mean 'fread'? [-Wimplicit-fun
ction-declaration]
while((n= read(0, buf, sizeof(buf))) > 0)
             ^~~~~~
             fread
programa.c:29:3: warning: implicit declaration of function 'write'; did you mean 'fwrite'? [-Wimplicit-fu
nction-declaration]
write(fd, buf, len);
   ^~~~~~
   fwrite
programa.c:32:2: warning: implicit declaration of function 'close'; did you mean 'pclose'? [-Wimplicit-fu
nction-declaration]
close(fd);
   ^~~~~~
   pclose
user@PC:~/Prak-so$ ./fcreate file-a.txt
Tekan Ctrl+D di akhir baris:
Nama = Afifah Ghaisani Imana; NIM = L200190198 user@PC:~/Prak-so$
user@PC:~/Prak-so$
```



## Program-b



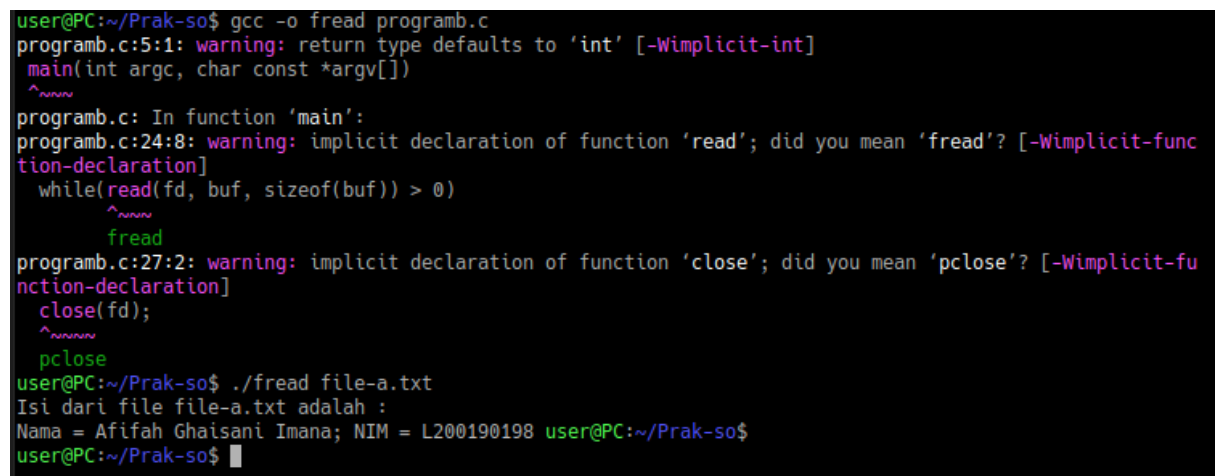
```
Program-b
#include <stdlib.h>
#include <fcntl.h>
main(int argc, char *argv[]){
    int i;
    char buf[100];
    if (argc < 2)
    {
        printf("Usage: ./a.out <filename>\n");
        exit(-1)

    fd = open(argv[1], O_RDONLY);
    if(fd == -1)
    {
        printf("%s file does not exist\n", argv [1]);
        exit(-1);
    }
    printf("Isi dari file %s adalah : \n", argv[1]);
    while(read(fd, buf, sizeof(buf)) > 0)
        printf("%s", buf);
    (fd);
}

programa.c
1 #include <stdio.h>
2 #include <stdlib.h>
3 #include <fcntl.h>
4
5 main(int argc, char const *argv[])
6 {
7     int fd, i;
8     char buf[100];
9     if (argc < 2)
10     {
11         printf("Usage: ./a.out <filename>\n");
12         exit(-1);
13     }
14
15     fd = open(argv[1], O_RDONLY);
16     if (fd == -1)
17     {
18         printf("%s file does not exist\n", argv[1]);
19         exit(-1);
20     }
21
22     printf("Isi dari file %s adalah : \n", argv[1]);
23     while(read(fd, buf, sizeof(buf)) > 0)
24         printf("%s", buf);
25
26     close(fd);
27
28 }
```

(Kode yang benar berada di sisi kanan, nama file = programb.c)

Tampilkan hasil eksekusi Program-b :



```
user@PC:~/Prak-so$ gcc -o fread programb.c
programb.c:5:1: warning: return type defaults to 'int' [-Wimplicit-int]
main(int argc, char const *argv[])
^~~~~~
programb.c: In function 'main':
programb.c:24:8: warning: implicit declaration of function 'read'; did you mean 'fread'? [-Wimplicit-func
tion-declaration]
while(read(fd, buf, sizeof(buf)) > 0)
      ^~~~~~
programb.c:27:2: warning: implicit declaration of function 'close'; did you mean 'pclose'? [-Wimplicit-fu
nction-declaration]
close(fd);
^~~~~~
pclose
user@PC:~/Prak-so$ ./fread file-a.txt
Isi dari file file-a.txt adalah :
Nama = Afifah Ghaisani Imana; NIM = L200190198 user@PC:~/Prak-so$
user@PC:~/Prak-so$
```