

Nama :Stevanus Andika Galih Setiawan.

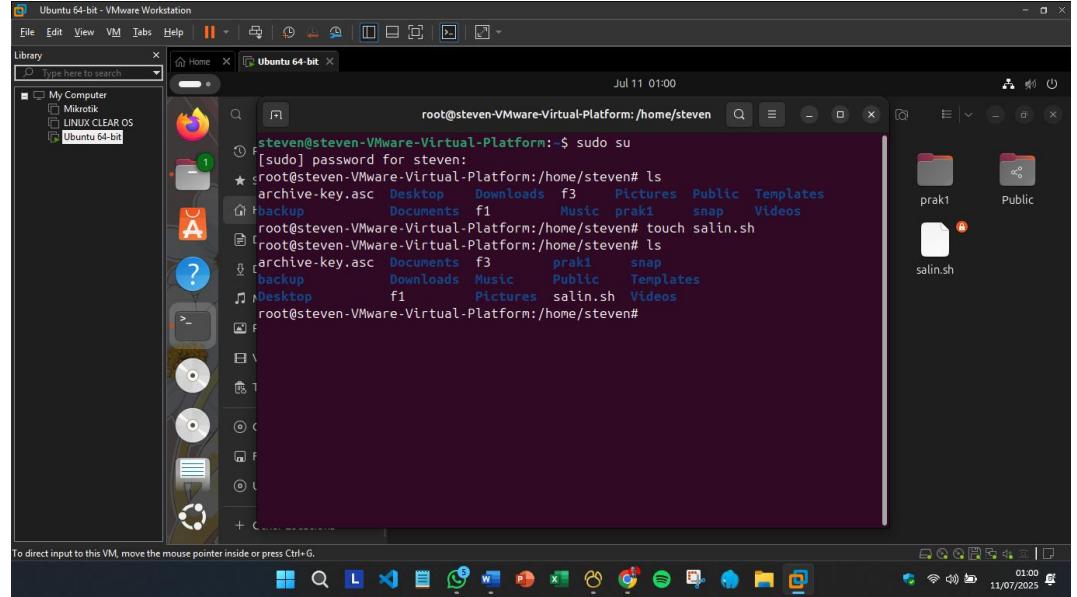
Kelas : RK231.

NIM : 202303110008.

Tugas : SO 12

1)

i) Proses pembuatan file salin.sh

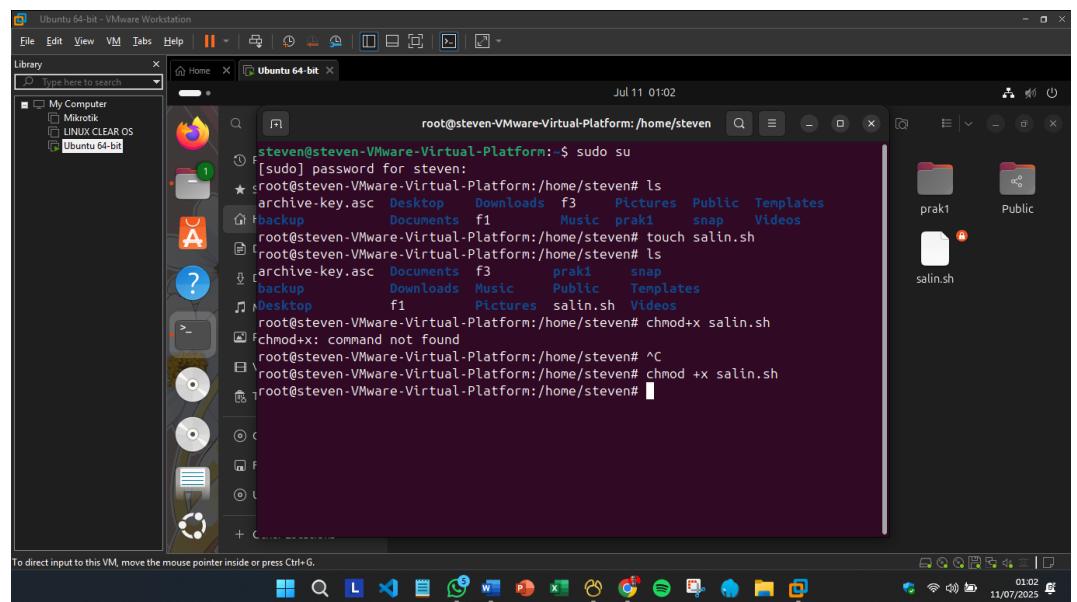


```
Ubuntu 64-bit - VMware Workstation
File Edit View VM Tabs Help || Library Home Ubuntu 64-bit Jul 11 01:00
[sudo] password for steven:
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop Downloads f3 Pictures Public Templates
fbacup Documents f1 Music prak1 snap Videos
root@steven-VMware-Virtual-Platform:/home/steven# touch salin.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Documents f3 prak1 snap
fbacup Downloads Music Public Templates
Desktop f1 Pictures salin.sh Videos
root@steven-VMware-Virtual-Platform:/home/steven#
```

To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

01:00 11/07/2025

ii) Pemberian run akses file

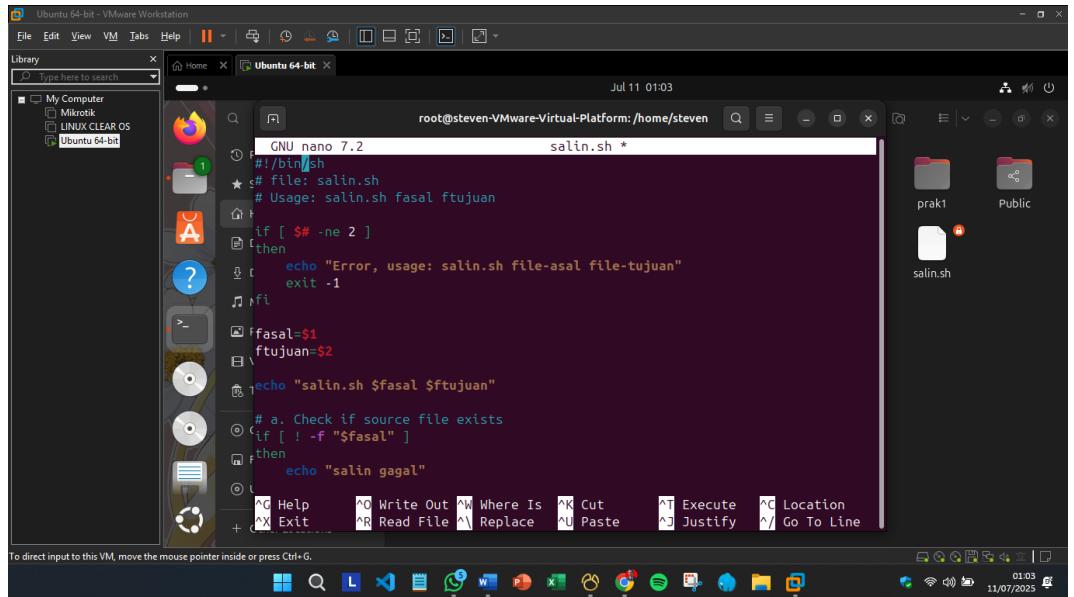


```
Ubuntu 64-bit - VMware Workstation
File Edit View VM Tabs Help || Library Home Ubuntu 64-bit Jul 11 01:02
[sudo] password for steven:
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop Downloads f3 Pictures Public Templates
fbacup Documents f1 Music prak1 snap Videos
root@steven-VMware-Virtual-Platform:/home/steven# touch salin.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Documents f3 prak1 snap
fbacup Downloads Music Public Templates
Desktop f1 Pictures salin.sh Videos
root@steven-VMware-Virtual-Platform:/home/steven# chmod+x salin.sh
chmod+x: command not found
root@steven-VMware-Virtual-Platform:/home/steven# ^C
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x salin.sh
root@steven-VMware-Virtual-Platform:/home/steven#
```

To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

01:02 11/07/2025

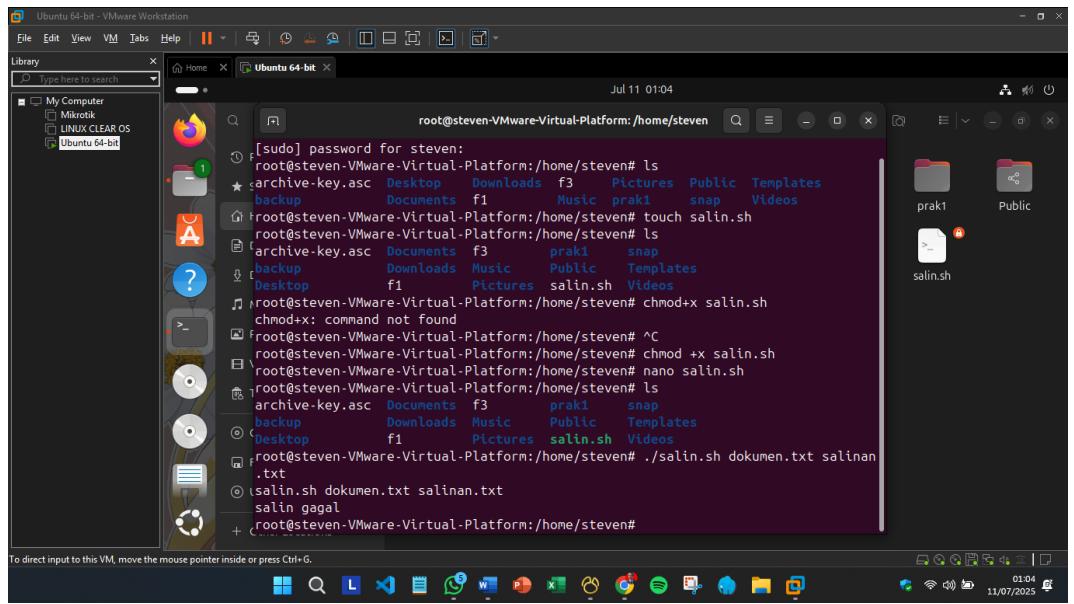
iii) Skrip salin.sh



```
Ubuntu 64-bit - VMware Workstation
File Edit View VM Tabs Help || | 
Library x Home x Ubuntu 64-bit x
Jul 11 01:03
root@steven-VMware-Virtual-Platform:/home/steven| nano 7.2 salin.sh *
#!/bin/sh
# file: salin.sh
# Usage: salin.sh fasal ftujuan
if [ $# -ne 2 ]
then
    echo "Error, usage: salin.sh file-asal file-tujuan"
    exit -1
fi
fasal=$1
ftujuan=$2
echo "salin.sh $fasal $ftujuan"
# a. Check if source file exists
if [ ! -f "$fasal" ]
then
    echo "salin gagal"
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location
^X Exit ^R Read File ^L Replace ^U Paste ^J Justify ^/ Go To Line
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
01:03 11/07/2025
```

iv) Pengujian:

A. Bila file asal tidak ada, berikan pesan, salin gagal



```
Ubuntu 64-bit - VMware Workstation
File Edit View VM Tabs Help || | 
Library x Home x Ubuntu 64-bit x
Jul 11 01:04
root@steven-VMware-Virtual-Platform:/home/steven| [sudo] password for steven:
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop Downloads f3 Pictures Public Templates
backup Documents f1 Music prak1 snap Videos
root@steven-VMware-Virtual-Platform:/home/steven# touch salin.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Documents f3 prak1 snap
backup Downloads Music Public Templates
Desktop f1 Pictures salin.sh Videos
root@steven-VMware-Virtual-Platform:/home/steven# chmod+x salin.sh
chmod: command not found
root@steven-VMware-Virtual-Platform:/home/steven# ^C
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x salin.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano salin.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Documents f3 prak1 snap
backup Downloads Music Public Templates
Desktop f1 Pictures salin.sh Videos
root@steven-VMware-Virtual-Platform:/home/steven# ./salin.sh dokumen.txt salinan.txt
salin gagal
root@steven-VMware-Virtual-Platform:/home/steven#
```

B. Bila file tujuan ada dan file tersebut adalah directory, beri pesan bahwa file tidak bisa disalin ke direktori

The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "Ubuntu 64-bit". The terminal content is as follows:

```
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Documents  f3  prak1  snap
★ backup         Downloads  f1  Pictures  salin.sh  Templates
Desktop          f1  Pictures  salin.sh  Videos
root@steven-VMware-Virtual-Platform:/home/steven# chmod+x salin.sh
chmod+x: command not found
root@steven-VMware-Virtual-Platform:/home/steven# ^C
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x salin.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano salin.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Documents  f3  prak1  snap
★ backup         Downloads  f1  Pictures  salin.sh  Templates
Desktop          f1  Pictures  salin.sh  Videos
root@steven-VMware-Virtual-Platform:/home/steven# ./salin.sh dokumen.txt salinan
.salin.sh
salin.sh dokumen.txt salinan.txt
salin gagal
root@steven-VMware-Virtual-Platform:/home/steven# mkdir direktori_tujuan
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  direktori_tujuan  f1  Pictures  salin.sh  Videos
★ backup         Documents  f3  prak1  snap
Desktop          Downloads  f1  Pictures  salin.sh  Videos
root@steven-VMware-Virtual-Platform:/home/steven# ./salin.sh dokumen.txt direktori_tujuan
./salin.sh dokumen.txt direktori_tujuan
salin gagal
root@steven-VMware-Virtual-Platform:/home/steven#
```

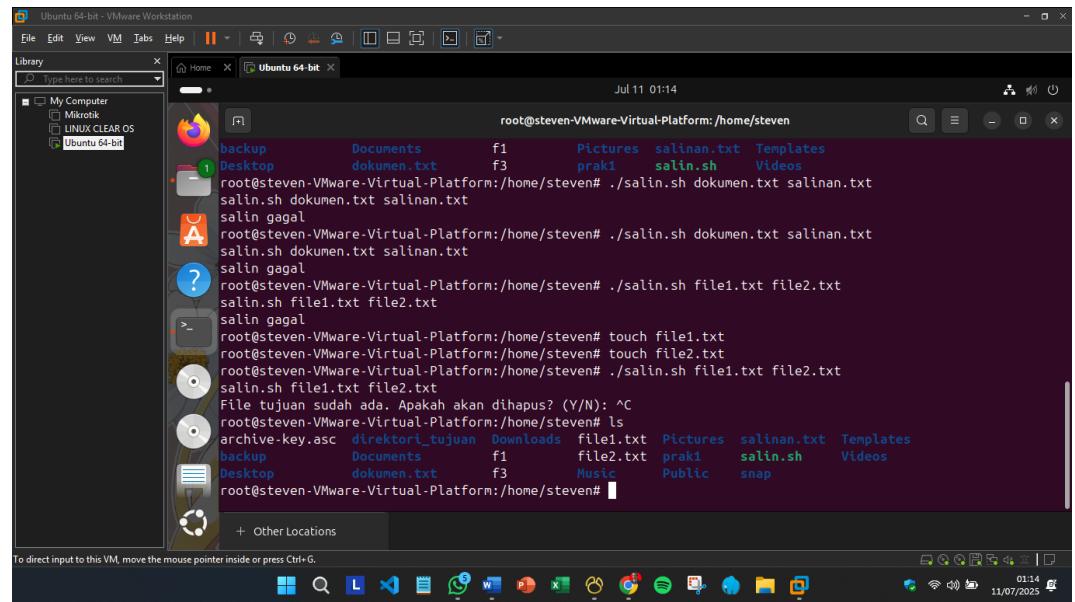
The terminal shows a user named "steven" with root privileges. They attempt to copy a file named "salin.sh" to a directory named "dokumen.txt", which already exists. The command fails with the message "salin gagal" (copy failed). The desktop environment includes icons for various applications like a browser, file manager, and terminal.

The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "Ubuntu 64-bit - VMware Workstation". The terminal content is as follows:

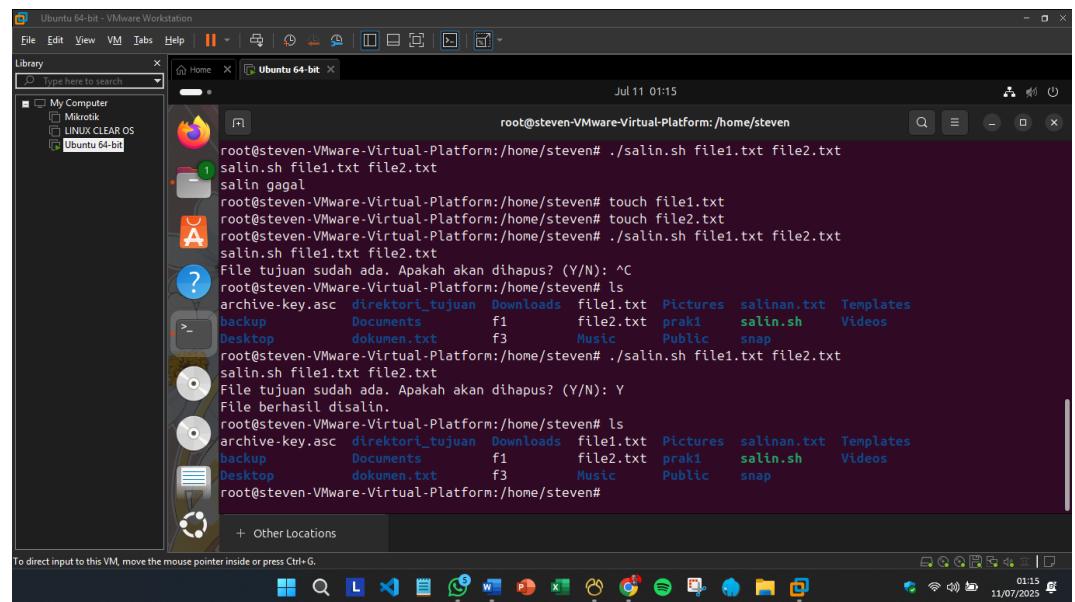
```
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Documents  f3  prak1  snap
★ backup         Downloads  f1  Pictures  salin.sh  Templates
Desktop          f1  Pictures  salin.sh  Videos
root@steven-VMware-Virtual-Platform:/home/steven# chmod+x salin.sh
chmod+x: command not found
root@steven-VMware-Virtual-Platform:/home/steven# ^C
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x salin.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano salin.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  direktori_tujuan  f1  Pictures  salin.sh  Videos
★ backup         Documents  f3  prak1  snap
Desktop          Downloads  f1  Pictures  salin.sh  Videos
root@steven-VMware-Virtual-Platform:/home/steven# ./salin.sh dokumen.txt salinan
.salin.sh
salin.sh dokumen.txt salinan.txt
salin gagal
root@steven-VMware-Virtual-Platform:/home/steven# mkdir direktori_tujuan
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  direktori_tujuan  f1  Pictures  salin.sh  Videos
★ backup         Documents  f3  prak1  snap
Desktop          Downloads  f1  Pictures  salin.sh  Videos
root@steven-VMware-Virtual-Platform:/home/steven# ./salin.sh dokumen.txt direktori_tujuan
./salin.sh dokumen.txt direktori_tujuan
salin gagal
root@steven-VMware-Virtual-Platform:/home/steven#
```

This screenshot is identical to the one above, showing the same terminal session and desktop environment. The difference is in the title bar, which includes "VMware Workstation". The terminal output shows a successful copy operation where the file "salin.sh" was moved to the directory "dokumen.txt".

C. Bila file tujuan ada dan file biasa, beri pesan apakan file tersebut akan dihapus, bila dijawab dengan “Y”, maka copy file tersebut.

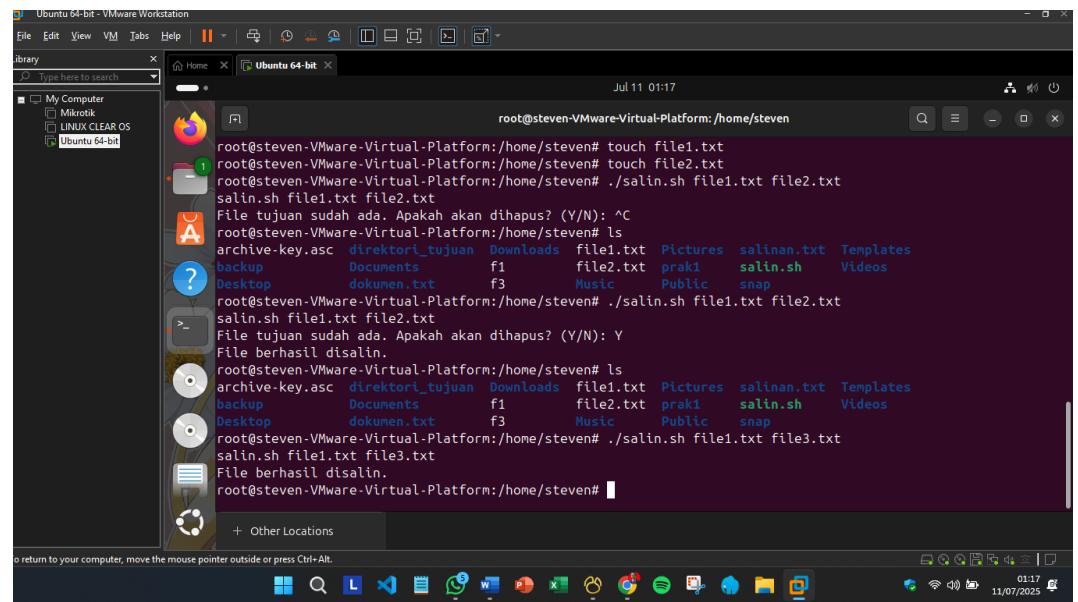


```
Ubuntu 64-bit - VMware Workstation
File Edit View VM Tabs Help || Type here to search
Library
My Computer
Mikrotik
LINUX CLEAR OS
Ubuntu 64-bit
root@steven-VMware-Virtual-Platform:/home/steven# ./salin.sh dokumen.txt salinan.txt
salin.sh dokumen.txt salinan.txt
salin gagal
root@steven-VMware-Virtual-Platform:/home/steven# ./salin.sh dokumen.txt salinan.txt
salin.sh dokumen.txt salinan.txt
salin gagal
root@steven-VMware-Virtual-Platform:/home/steven# ./salin.sh file1.txt file2.txt
salin.sh file1.txt file2.txt
salin gagal
root@steven-VMware-Virtual-Platform:/home/steven# touch file1.txt
root@steven-VMware-Virtual-Platform:/home/steven# touch file2.txt
root@steven-VMware-Virtual-Platform:/home/steven# ./salin.sh file1.txt file2.txt
salin.sh file1.txt file2.txt
File tujuan sudah ada. Apakah akan dihapus? (Y/N): C
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc direktori_tujuan Downloads file1.txt Pictures salinan.txt Templates
backup Documents f1 file2.txt prak1 salin.sh Videos
Desktop dokumen.txt f3 Music Public snap
root@steven-VMware-Virtual-Platform:/home/steven#
```



```
Ubuntu 64-bit - VMware Workstation
File Edit View VM Tabs Help || Type here to search
Library
My Computer
Mikrotik
LINUX CLEAR OS
Ubuntu 64-bit
root@steven-VMware-Virtual-Platform:/home/steven# ./salin.sh file1.txt file2.txt
salin.sh file1.txt file2.txt
salin gagal
root@steven-VMware-Virtual-Platform:/home/steven# touch file1.txt
root@steven-VMware-Virtual-Platform:/home/steven# touch file2.txt
root@steven-VMware-Virtual-Platform:/home/steven# ./salin.sh file1.txt file2.txt
salin.sh file1.txt file2.txt
File tujuan sudah ada. Apakah akan dihapus? (Y/N): ^C
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc direktori_tujuan Downloads file1.txt Pictures salinan.txt Templates
backup Documents f1 file2.txt prak1 salin.sh Videos
Desktop dokumen.txt f3 Music Public snap
root@steven-VMware-Virtual-Platform:/home/steven# ./salin.sh file1.txt file2.txt
salin.sh file1.txt file2.txt
File tujuan sudah ada. Apakah akan dihapus? (Y/N): Y
File berhasil disalin.
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc direktori_tujuan Downloads file1.txt Pictures salinan.txt Templates
backup Documents f1 file2.txt prak1 salin.sh Videos
Desktop dokumen.txt f3 Music Public snap
root@steven-VMware-Virtual-Platform:/home/steven#
```

D. Bila file tujuan belum ada, lakukan copy

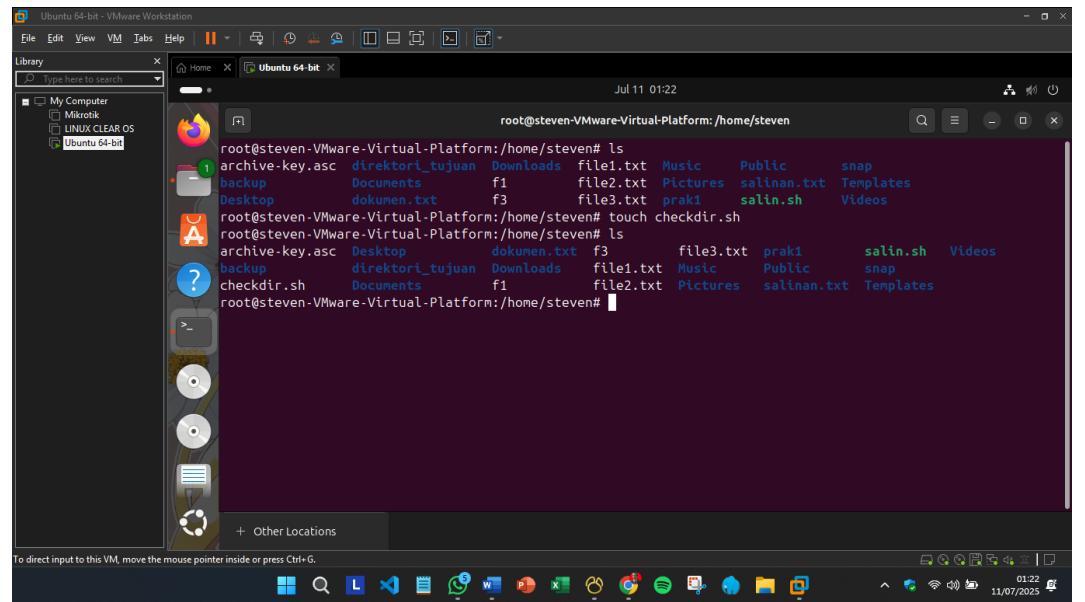


The screenshot shows a terminal window titled "Ubuntu 64-bit - VMware Workstation". The terminal is running as root user. The user has created two files, "file1.txt" and "file2.txt", in their home directory. They then run a script named "salin.sh" which copies these files to a directory named "direktori_tujuan". The terminal shows the user's confirmation for overwriting existing files and the successful completion of the copy operation.

```
root@steven-VMware-Virtual-Platform:/home/steven# touch file1.txt
root@steven-VMware-Virtual-Platform:/home/steven# touch file2.txt
root@steven-VMware-Virtual-Platform:/home/steven# ./salin.sh file1.txt file2.txt
salin.sh file1.txt file2.txt
File tujuan sudah ada. Apakah akan dihapus? (Y/N): ^C
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc direktori_tujuan Downloads file1.txt Pictures salinan.txt Templates
backup Documents f1 file2.txt prakl salin.sh Videos
Desktop dokumen.txt f3 Music Public snap
root@steven-VMware-Virtual-Platform:/home/steven# ./salin.sh file1.txt file2.txt
salin.sh file1.txt file2.txt
File tujuan sudah ada. Apakah akan dihapus? (Y/N): Y
File berhasil disalin.
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc direktori_tujuan Downloads file1.txt Pictures salinan.txt Templates
backup Documents f1 file2.txt prakl salin.sh Videos
Desktop dokumen.txt f3 Music Public snap
root@steven-VMware-Virtual-Platform:/home/steven# ./salin.sh file1.txt file3.txt
salin.sh file1.txt file3.txt
File berhasil disalin.
root@steven-VMware-Virtual-Platform:/home/steven#
```

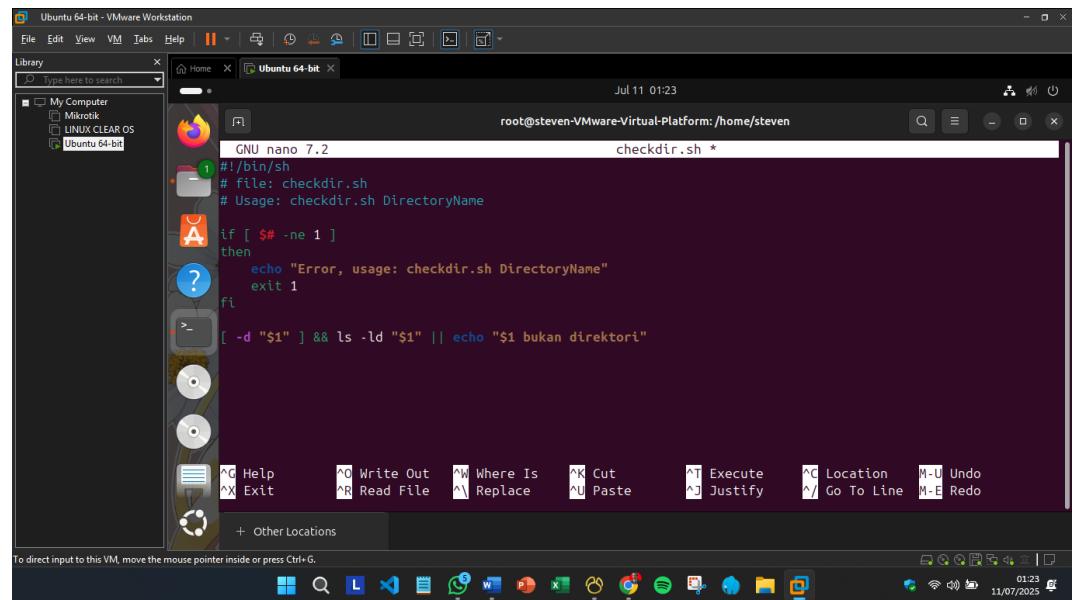
2).

(a) Pengecekan file checkdir.sh:



```
Ubuntu 64-bit - VMware Workstation
File Edit View VM Tabs Help || | Type here to search
Library Home Ubuntu 64-bit Jul 11 01:22
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc direktori_tujuan Downloads file1.txt Music Public snap
backup Documents f1 file2.txt Pictures salinan.txt Templates
Desktop dokumen.txt f3 file3.txt prak1 salin.sh Videos
root@steven-VMware-Virtual-Platform:/home/steven# touch checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop dokumen.txt f3 file1.txt prak1 salin.sh Videos
backup direktori_tujuan Downloads file1.txt Music Public snap
checkdir.sh Documents f1 file2.txt Pictures salinan.txt Templates
root@steven-VMware-Virtual-Platform:/home/steven#
```

(b) Pembuatan skrip checkdir.sh



```
Ubuntu 64-bit - VMware Workstation
File Edit View VM Tabs Help || | Type here to search
Library Home Ubuntu 64-bit Jul 11 01:23
root@steven-VMware-Virtual-Platform:/home/steven
GNU nano 7.2
#!/bin/sh
# file: checkdir.sh
# Usage: checkdir.sh DirectoryName

if [ $# -ne 1 ]
then
    echo "Error, usage: checkdir.shDirectoryName"
    exit 1
fi
[ -d "$1" ] && ls -ld "$1" || echo "$1 bukan direktori"
```

(c) Pemberian run akses chmod

The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "Ubuntu 64-bit". The command history shows:

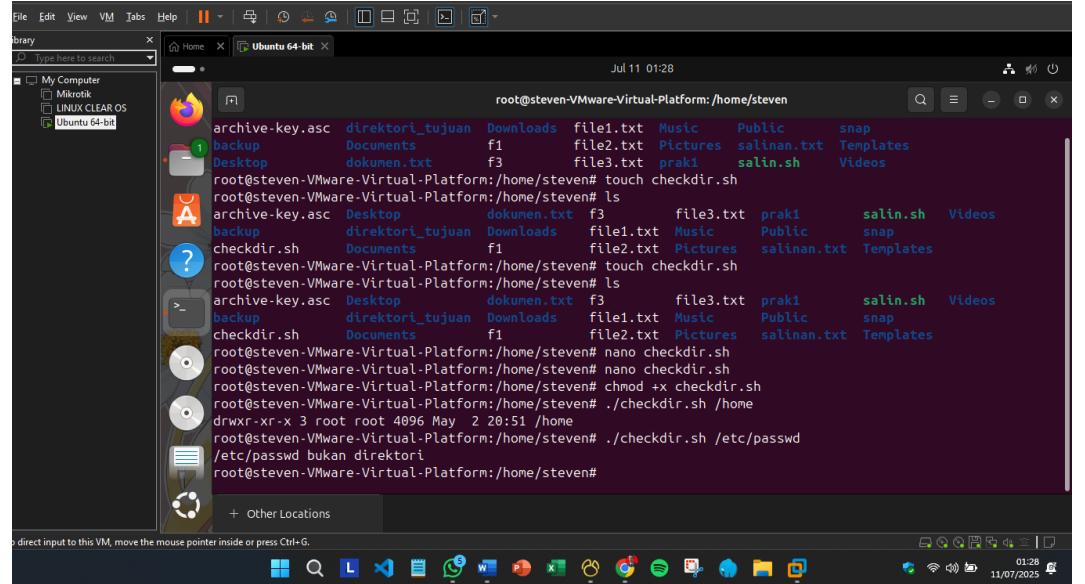
```
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc direktori_tujuan Downloads file1.txt Music Public snap
backup Documents f1 file2.txt Pictures salinan.txt Templates
Desktop dokumen.txt f3 file3.txt prak1 salin.sh Videos
root@steven-VMware-Virtual-Platform:/home/steven# touch checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop dokumen.txt f3 file3.txt prak1 salin.sh Videos
backup direktori_tujuan Downloads file1.txt Music Public snap
checkdir.sh Documents f1 file2.txt Pictures salinan.txt Templates
root@steven-VMware-Virtual-Platform:/home/steven# touch checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven#
```

(d) Test jika bukan . Jika Parameter adalah Direktori yang Valid

The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "Ubuntu 64-bit". The command history shows:

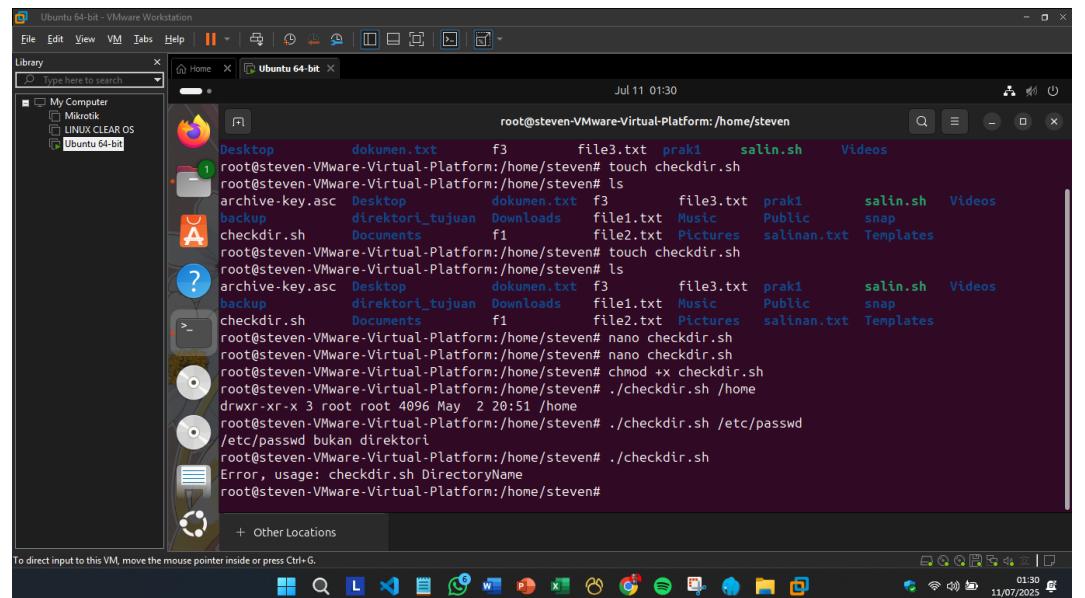
```
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc direktori_tujuan Downloads file1.txt Music Public snap
backup Documents f1 file2.txt Pictures salinan.txt Templates
Desktop dokumen.txt f3 file3.txt prak1 salin.sh Videos
root@steven-VMware-Virtual-Platform:/home/steven# touch checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop dokumen.txt f3 file3.txt prak1 salin.sh Videos
backup direktori_tujuan Downloads file1.txt Music Public snap
checkdir.sh Documents f1 file2.txt Pictures salinan.txt Templates
root@steven-VMware-Virtual-Platform:/home/steven# touch checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# ./checkdir.sh /home
drwxr-xr-x 3 root root 4096 May 2 20:51 /home
root@steven-VMware-Virtual-Platform:/home/steven#
```

(e) Test Jika Parameter Bukan Direktori (File biasa/tidak ada)



```
root@steven-VMware-Virtual-Platform:/home/steven# touch checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  direktori_tujuan  Downloads  file1.txt  Music    Public   snap
root@steven-VMware-Virtual-Platform:/home/steven# ./checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop        dokumen.txt f1      file1.txt  Pictures  salinan.txt  Templates
root@steven-VMware-Virtual-Platform:/home/steven# ./checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop        dokumen.txt f3      file3.txt  prak1     salin.sh   Videos
root@steven-VMware-Virtual-Platform:/home/steven# ./checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop        dokumen.txt f3      file3.txt  prak1     salin.sh   Videos
root@steven-VMware-Virtual-Platform:/home/steven# ./checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop        dokumen.txt f3      file3.txt  prak1     salin.sh   Videos
root@steven-VMware-Virtual-Platform:/home/steven# ./checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# ./checkdir.sh /home
drwxr-xr-x 3 root root 4096 May  2 20:51 /home
root@steven-VMware-Virtual-Platform:/home/steven# ./checkdir.sh /etc/passwd
/etc/passwd bukan direktori
root@steven-VMware-Virtual-Platform:/home/steven#
```

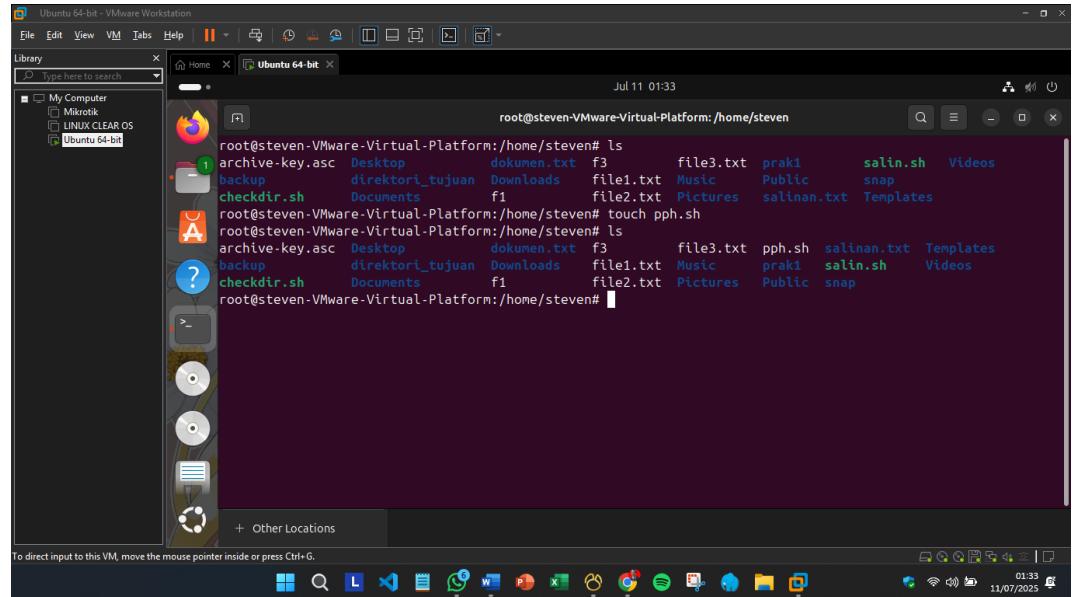
(f) Test jika bukan directory



```
root@steven-VMware-Virtual-Platform:/home/steven# touch checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
Desktop        dokumen.txt f3      file3.txt  prak1     salin.sh   Videos
root@steven-VMware-Virtual-Platform:/home/steven# ./checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop        dokumen.txt f3      file3.txt  prak1     salin.sh   Videos
root@steven-VMware-Virtual-Platform:/home/steven# ./checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop        dokumen.txt f3      file3.txt  prak1     salin.sh   Videos
root@steven-VMware-Virtual-Platform:/home/steven# ./checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop        dokumen.txt f3      file3.txt  prak1     salin.sh   Videos
root@steven-VMware-Virtual-Platform:/home/steven# ./checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x checkdir.sh
root@steven-VMware-Virtual-Platform:/home/steven# ./checkdir.sh /home
drwxr-xr-x 3 root root 4096 May  2 20:51 /home
root@steven-VMware-Virtual-Platform:/home/steven# ./checkdir.sh /etc/passwd
/etc/passwd bukan direktori
root@steven-VMware-Virtual-Platform:/home/steven# ./checkdir.sh
Error, usage: checkdir.sh DirectoryName
root@steven-VMware-Virtual-Platform:/home/steven#
```

3).

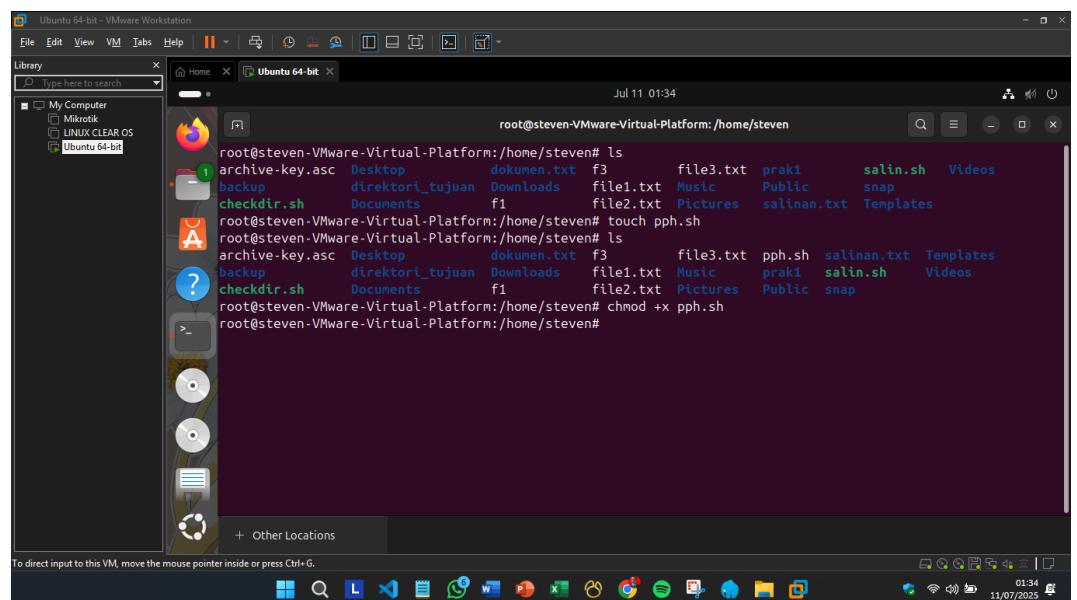
i) Proses pembuatan file pph.sh



The screenshot shows a terminal window titled "Ubuntu 64-bit - VMware Workstation". The terminal is running as root on the host system "steven-VMware-Virtual-Platform". The command "ls" is run first, showing a list of files including "archive-key.asc", "Desktop", "dokumen.txt", "f3", "file3.txt", "praki", "salin.sh", "Videos", "backup", "direktori_tujuan", "Downloads", "file1.txt", "Music", "Public", "snap", "checkdir.sh", "Documents", "f1", "file2.txt", "Pictures", "salinan.txt", and "Templates". Then, the command "touch pph.sh" is run to create a new file named "pph.sh". Finally, "ls" is run again to show the updated list of files, now including "pph.sh".

```
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop dokumen.txt f3      file3.txt praki    salin.sh  Videos
backup          direktori_tujuan Downloads file1.txt Music   Public   snap
checkdir.sh     Documents   f1       file2.txt Pictures  salinan.txt Templates
root@steven-VMware-Virtual-Platform:/home/steven# touch pph.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop dokumen.txt f3      file3.txt pph.sh  salinan.txt Templates
backup          direktori_tujuan Downloads file1.txt Music   praki   salin.sh  Videos
checkdir.sh     Documents   f1       file2.txt Pictures  Public   snap
root@steven-VMware-Virtual-Platform:/home/steven#
```

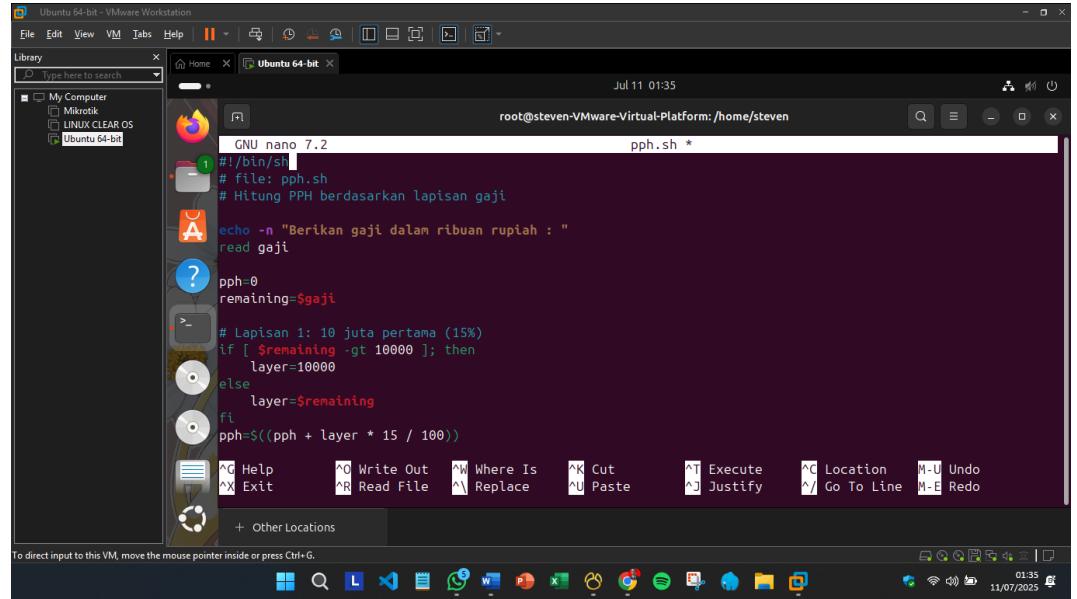
ii) Pemberian run akses file



The screenshot shows a terminal window titled "Ubuntu 64-bit - VMware Workstation". The terminal is running as root on the host system "steven-VMware-Virtual-Platform". The command "ls" is run first, showing a list of files including "archive-key.asc", "Desktop", "dokumen.txt", "f3", "file3.txt", "praki", "salin.sh", "Videos", "backup", "direktori_tujuan", "Downloads", "file1.txt", "Music", "praki", "salin.sh", "Videos", "checkdir.sh", "Documents", "f1", "file2.txt", "Pictures", "Public", "snap", and "Templates". Then, the command "touch pph.sh" is run to create a new file named "pph.sh". Finally, the command "chmod +x pph.sh" is run to give execute permissions to the file.

```
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop dokumen.txt f3      file3.txt praki    salin.sh  Videos
backup          direktori_tujuan Downloads file1.txt Music   Public   snap
checkdir.sh     Documents   f1       file2.txt Pictures  salinan.txt Templates
root@steven-VMware-Virtual-Platform:/home/steven# touch pph.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop dokumen.txt f3      file3.txt pph.sh  salinan.txt Templates
backup          direktori_tujuan Downloads file1.txt Music   praki   salin.sh  Videos
checkdir.sh     Documents   f1       file2.txt Pictures  Public   snap
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x pph.sh
root@steven-VMware-Virtual-Platform:/home/steven#
```

iii) Kode



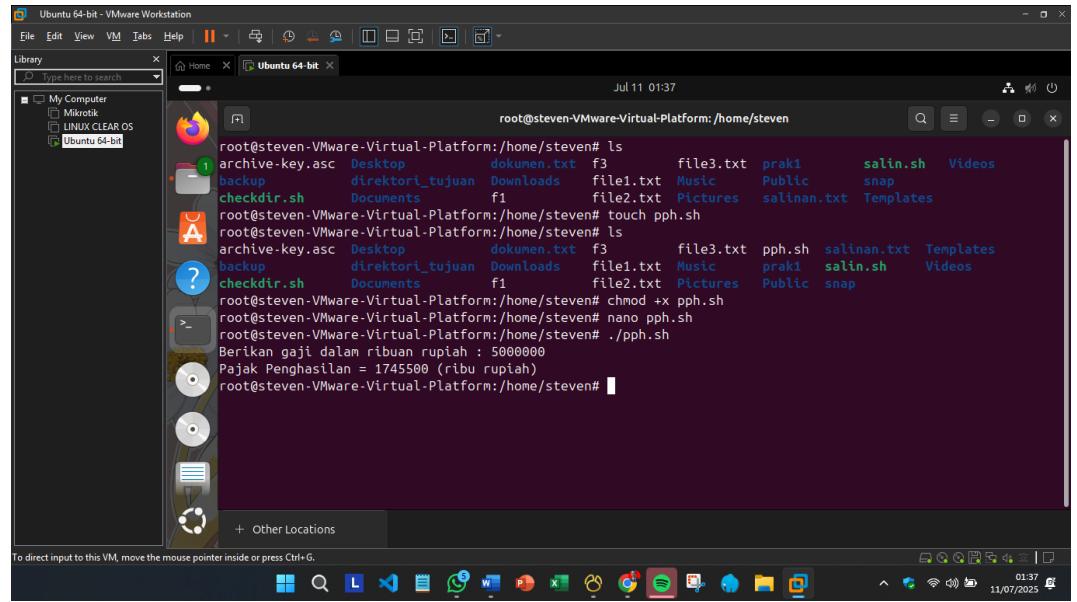
```
GNU nano 7.2
#!/bin/sh
# file: pph.sh
# Hitung PPH berdasarkan lapisan gaji

echo -n "Berikan gaji dalam ribuan rupiah : "
read gaji

pph=0
remaining=$gaji

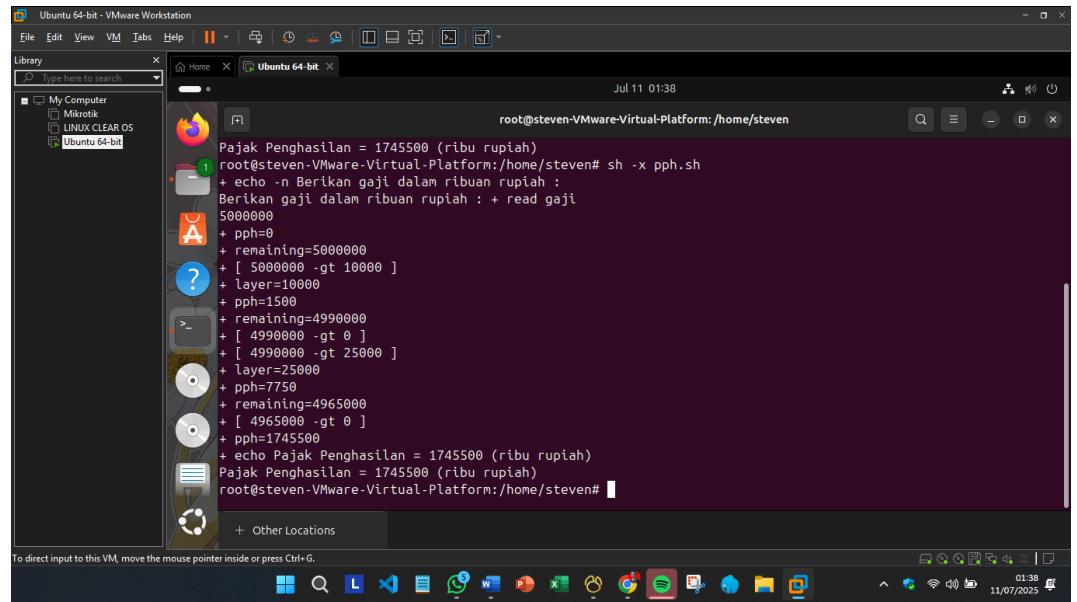
# Lapisan 1: 10 juta pertama (15%)
if [ $remaining -gt 10000 ]; then
    layer=10000
else
    layer=$remaining
fi
pph=$((pph + layer * 15 / 100))
```

iv) Hasil run jika penghasilan 5 juta



```
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop  dokumen.txt  f3  file3.txt  praki  salin.sh  Videos
backup          direktori_tujuan  Downloads  file1.txt  Music  Public  snap
checkdir.sh     Documents   f1        file2.txt  Pictures  salinan.txt  Templates
root@steven-VMware-Virtual-Platform:/home/steven# touch pph.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop  dokumen.txt  f3  file3.txt  pph.sh  salinan.txt  Templates
backup          direktori_tujuan  Downloads  file1.txt  Music  praki  salin.sh  Videos
checkdir.sh     Documents   f1        file2.txt  Pictures  Public  snap
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x pph.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano pph.sh
root@steven-VMware-Virtual-Platform:/home/steven# ./pph.sh
Berikan gaji dalam ribuan rupiah : 5000000
Pajak Penghasilan = 1745500 (ribu rupiah)
root@steven-VMware-Virtual-Platform:/home/steven#
```

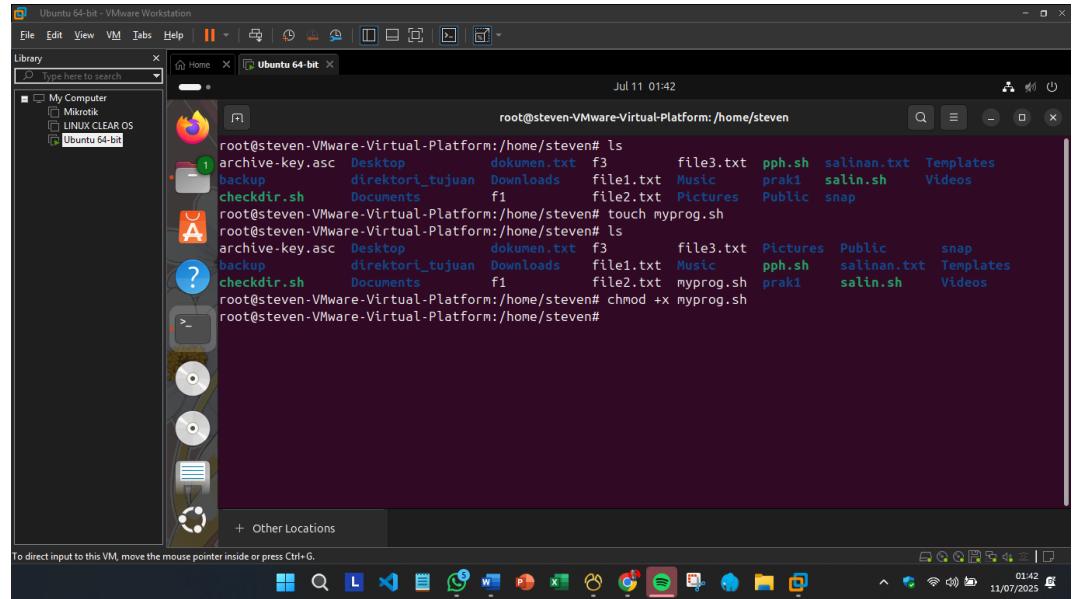
Hasil run jika dengan trace



```
Pajak Penghasilan = 1745500 (ribu rupiah)
root@steven-VMware-Virtual-Platform:/home/steven# sh -x pph.sh
+ echo -n Berikan gaji dalam ribuan rupiah :
Berikan gaji dalam ribuan rupiah : + read gaji
5000000
+ pph=0
+ remaining=5000000
+ [ 5000000 -gt 10000 ]
+ layer=10000
+ pph=1500
+ remaining=4990000
+ [ 4990000 -gt 0 ]
+ [ 4990000 -gt 25000 ]
+ layer=25000
+ pph=7750
+ remaining=4965000
+ [ 4965000 -gt 0 ]
+ pph=1745500
+ echo Pajak Penghasilan = 1745500 (ribu rupiah)
Pajak Penghasilan = 1745500 (ribu rupiah)
root@steven-VMware-Virtual-Platform:/home/steven#
```

4)

i) Proses pembuatan file myprog.sh

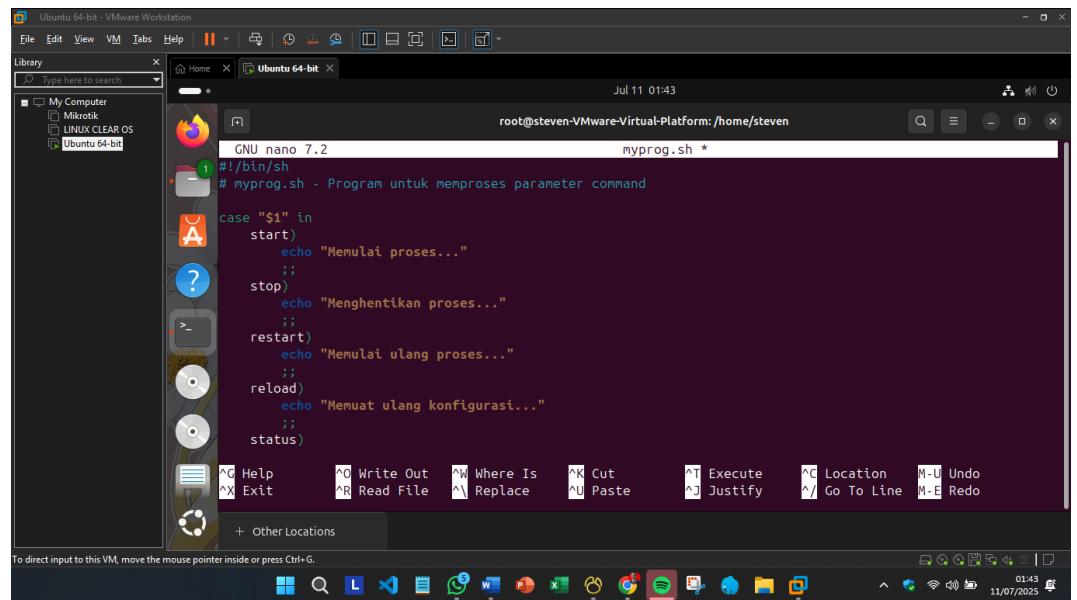


The screenshot shows a terminal window titled "Ubuntu 64-bit - VMware Workstation". The terminal is running as root on the command line. The user has run several commands to demonstrate the creation of a file named "myprog.sh":

```
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop  dokumen.txt  f3      file3.txt  pph.sh  salinan.txt  Templates
backup          direktori_tujuan  Downloads  file1.txt  Music   prak1    salin.sh   Videos
checkdir.sh     Documents   f1        file2.txt  Pictures Public   snap

root@steven-VMware-Virtual-Platform:/home/steven# touch myprog.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop  dokumen.txt  f3      file3.txt  Pictures  Public   snap
backup          direktori_tujuan  Downloads  file1.txt  Music   pph.sh  salinan.txt  Templates
checkdir.sh     Documents   f1        file2.txt  myprog.sh  prak1    salin.sh   Videos
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x myprog.sh
root@steven-VMware-Virtual-Platform:/home/steven#
```

ii) Skrip kode

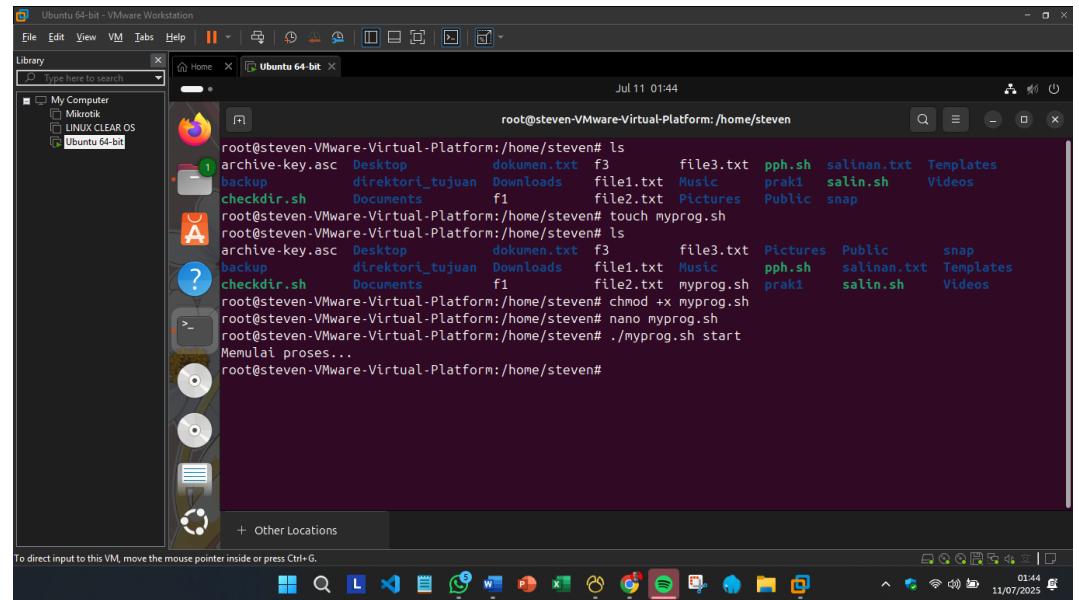


The screenshot shows a terminal window titled "Ubuntu 64-bit - VMware Workstation". The terminal is running as root on the command line. The user has opened a nano editor to view the contents of the "myprog.sh" file:

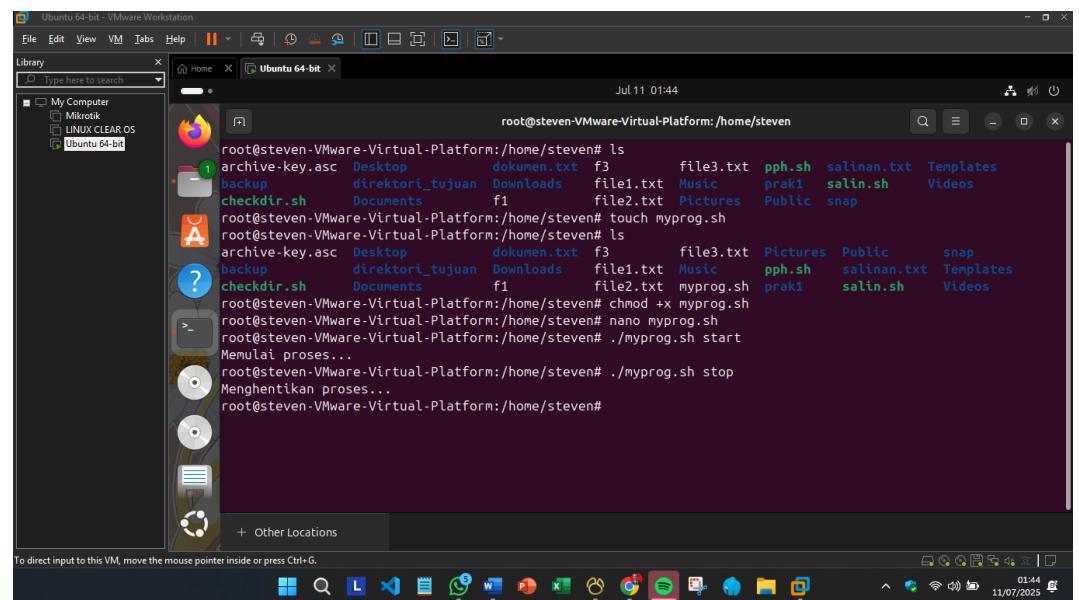
```
GNU nano 7.2
#!/bin/sh
# myprog.sh - Program untuk memproses parameter command

case "$1" in
    start)
        echo "Memulai proses..."
        ;;
    stop)
        echo "Menghentikan proses..."
        ;;
    restart)
        echo "Memulai ulang proses..."
        ;;
    reload)
        echo "Memuat ulang konfigurasi..."
        ;;
    status)
        ;;
```

iii) test program



```
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop  dokumen.txt  f3      file3.txt  pph.sh  salinan.txt  Templates
backup          direktori_tujuan  Downloads  file1.txt  Music   prak1   salin.sh   Videos
checkdir.sh     Documents   fi        file2.txt  Pictures  Public   snap
root@steven-VMware-Virtual-Platform:/home/steven# touch myprog.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop  dokumen.txt  f3      file3.txt  Pictures  Public   snap
backup          direktori_tujuan  Downloads  file1.txt  Music   pph.sh  salinan.txt  Templates
checkdir.sh     Documents   fi        file2.txt  myprog.sh  prak1   salin.sh   Videos
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x myprog.sh
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh start
Memulai proses...
root@steven-VMware-Virtual-Platform:/home/steven#
```



```
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop  dokumen.txt  f3      file3.txt  pph.sh  salinan.txt  Templates
backup          direktori_tujuan  Downloads  file1.txt  Music   prak1   salin.sh   Videos
checkdir.sh     Documents   fi        file2.txt  Pictures  Public   snap
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop  dokumen.txt  f3      file3.txt  Pictures  Public   snap
backup          direktori_tujuan  Downloads  file1.txt  Music   pph.sh  salinan.txt  Templates
checkdir.sh     Documents   fi        file2.txt  myprog.sh  prak1   salin.sh   Videos
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x myprog.sh
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh start
Memulai proses...
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh stop
Menghentikan proses...
root@steven-VMware-Virtual-Platform:/home/steven#
```

```
Ubuntu 64-bit - VMware Workstation
File Edit View VM Tabs Help || Library Home Ubuntu 64-bit Jul 11 01:44
Type here to search
My Computer Mikrotik LINUX CLEAR OS Ubuntu 64-bit
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop dokumen.txt f3 file3.txt pph.sh salinan.txt Templates
backup direktori_tujuan Downloads file1.txt Music prak1 salin.sh Videos
checkdir.sh Documents f1 file2.txt Pictures Public snap
root@steven-VMware-Virtual-Platform:/home/steven# touch myprog.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop dokumen.txt f3 file3.txt Pictures Public snap
backup direktori_tujuan Downloads file1.txt Music pph.sh salinan.txt Templates
checkdir.sh Documents f1 file2.txt myprog.sh prak1 salin.sh Videos
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x myprog.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano myprog.sh
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh start
Memulai proses...
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh stop
Menghentikan proses...
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh restart
Memulai ulang proses...
root@steven-VMware-Virtual-Platform:/home/steven#
```

Ubuntu 64-bit - VMware Workstation

File Edit View VM Tabs Help || | | | | | | | |

Library X Home Ubuntu 64-bit Jul 11 01:45

My Computer Mikrotik LINUX CLEAR OS Ubuntu 64-bit

root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop dokumenten.txt f3 file3.txt pph.sh salinan.txt Templates
backup direktori_tujuan Downloads file1.txt Music praki salin.sh Videos
checkdir.sh Documents f1 file2.txt Pictures Public snap

root@steven-VMware-Virtual-Platform:/home/steven# touch myprog.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop dokumenten.txt f3 file3.txt Pictures Public snap
backup direktori_tujuan Downloads file1.txt Music pph.sh salinan.txt Templates
checkdir.sh Documents f1 file2.txt myprog.sh praki salin.sh Videos

root@steven-VMware-Virtual-Platform:/home/steven# chmod +x myprog.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano myprog.sh
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh start
Memulai proses...
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh stop
Menghentikan proses...
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh restart
Memulai ulang proses...
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh reload
Memuat Ulang konfigurasi...
root@steven-VMware-Virtual-Platform:/home/steven#

+ Other Locations

To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

11/07/2025 01:45

Ubuntu 64-bit - VMware Workstation

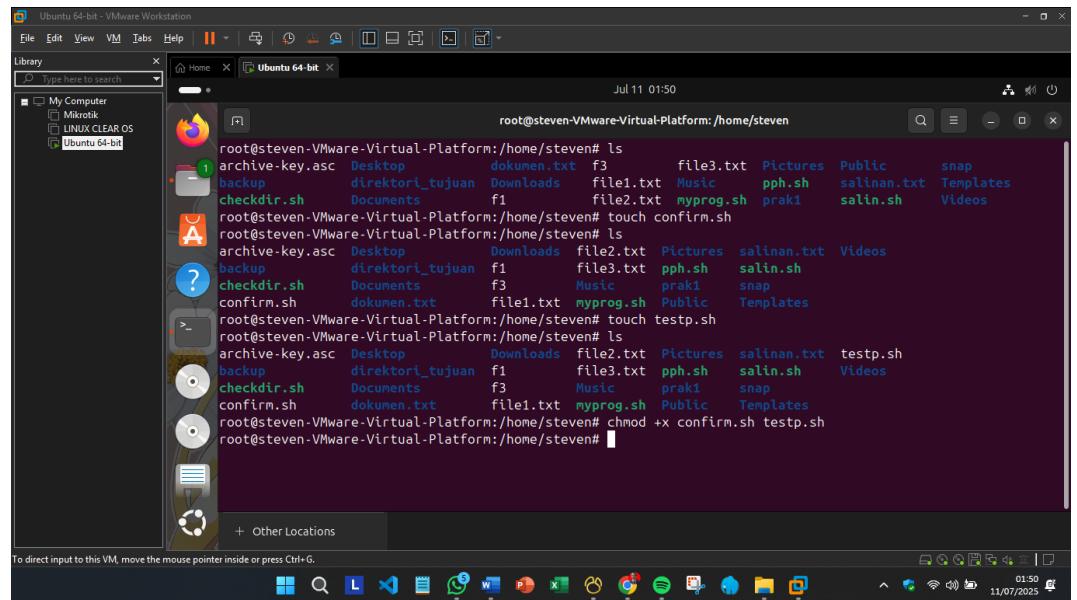
File Edit View VM Tabs Help || | Type here to search Library

root@steven-VMware-Virtual-Platform:/home/steven# touch myprog.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop dokument.txt f3 file3.txt Pictures Public snap
backup direktori_tujuan Downloads file1.txt Music pph.sh salinan.txt Templates
checkdir.sh Documents f1 file2.txt myprog.sh prak1 saltn.sh Videos
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x myprog.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano myprog.sh
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh start
Memulai proses...
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh stop
Menghentikan proses...
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh restart
Memulai ulang proses...
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh reload
Memuat ulang konfigurasi...
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh status
Menampilkan status proses...
root@steven-VMware-Virtual-Platform:/home/steven# ./myprog.sh abc
Error: Parameter tidak valid
Usage: ./myprog.sh {start|stop|restart|reload|status}
root@steven-VMware-Virtual-Platform:/home/steven#

To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

5)

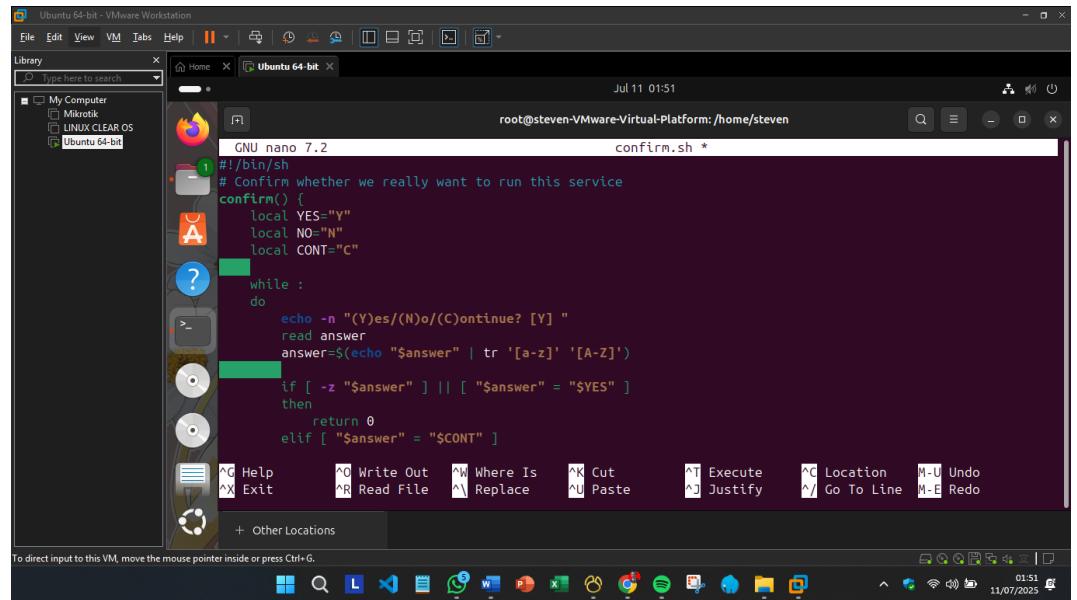
i) Proses pembuatan file confirm.sh dan testp.sh



```
Ubuntu 64-bit - VMware Workstation
File Edit View VM Tabs Help || Type here to search
Library Home Ubuntu 64-bit Jul 11 01:50
My Computer
Mikrotik
LINUX CLEAR OS
Ubuntu 64-bit

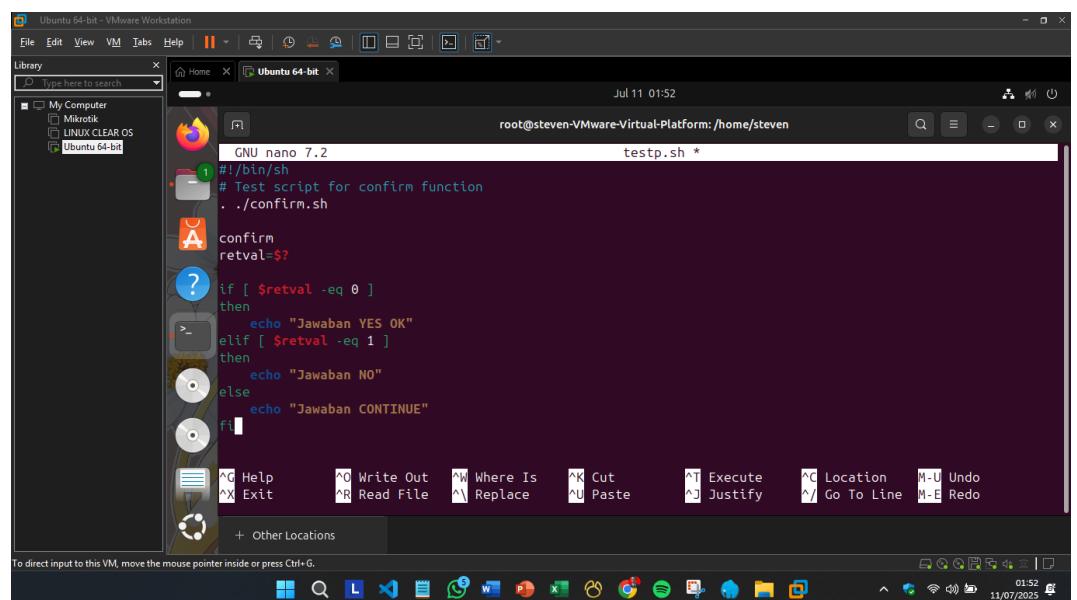
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop dokumen.txt f3      file3.txt Pictures Public    snap
backup       direktori_tujuan Downloads file1.txt Music   pph.sh  salinan.txt Templates
checkdir.sh  Documents   f1      file2.txt myprog.sh prak1  salin.sh  Videos
root@steven-VMware-Virtual-Platform:/home/steven# touch confirm.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop Downloads file2.txt Pictures salinan.txt Videos
backup       direktori_tujuan f1      file3.txt pph.sh  salin.sh  snap
checkdir.sh  Documents   f3      Music   prak1  Templates
confirm.sh   dokumen.txt file1.txt myprog.sh Public
root@steven-VMware-Virtual-Platform:/home/steven# touch testp.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop Downloads file2.txt Pictures salinan.txt testp.sh
backup       direktori_tujuan f1      file3.txt pph.sh  salin.sh  Videos
checkdir.sh  Documents   f3      Music   prak1  snap
confirm.sh   dokumen.txt file1.txt myprog.sh Public  Templates
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x confirm.sh testp.sh
root@steven-VMware-Virtual-Platform:/home/steven#
```

ii) Kode lengkap



```
#!/bin/sh
# Confirm whether we really want to run this service
confirm() {
    local YES="Y"
    local NO="N"
    local CONT="C"

    while :
    do
        echo -n "(Y)es/(N)o/(C)ontinue? [Y] "
        read answer
        answer=$(echo "$answer" | tr '[a-z]' '[A-Z]')
        if [ -z "$answer" ] || [ "$answer" = "$YES" ]
        then
            return 0
        elif [ "$answer" = "$CONT" ]
        then
            return 1
        else
            echo "Unknown answer '$answer' - ignoring"
        fi
    done
}
```

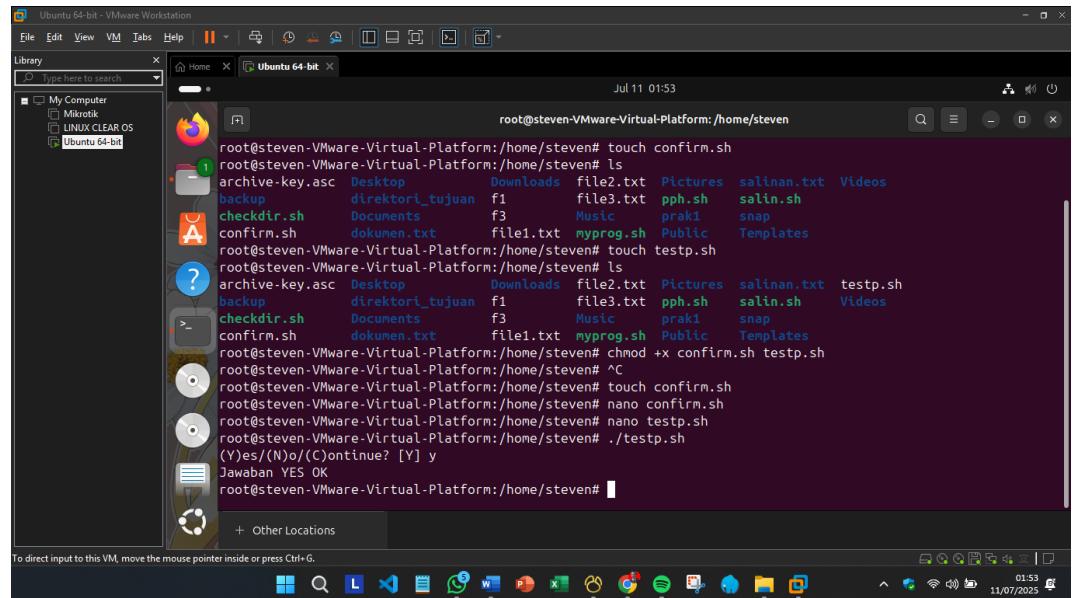


```
#!/bin/sh
# Test script for confirm function
. ./confirm.sh

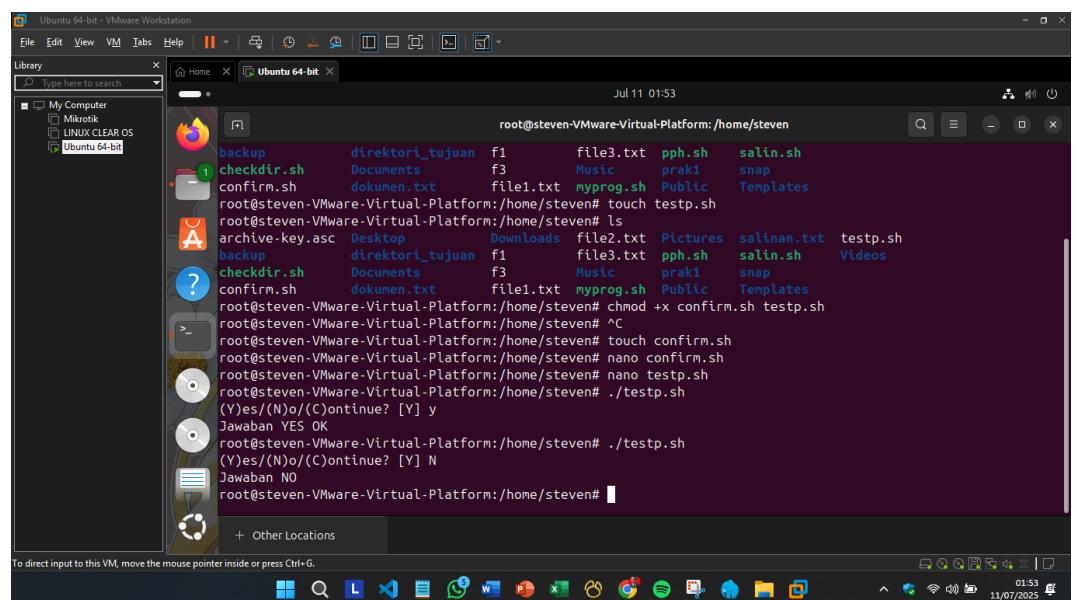
confirm
retval=$?

if [ $retval -eq 0 ]
then
    echo "Jawaban YES OK"
elif [ $retval -eq 1 ]
then
    echo "Jawaban NO"
else
    echo "Jawaban CONTINUE"
fi
```

iii) Pengujian



```
root@steven-VMware-Virtual-Platform:/home/steven# touch confirm.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop  Downloads  file2.txt  Pictures  salinan.txt  Videos
backup          direktori_tujuan  f1      file3.txt  pph.sh    salin.sh
checkdir.sh     Documents   f3      Music     prak1    snap
confirm.sh      dokumen.txt  file1.txt  myprog.sh  Public   Templates
root@steven-VMware-Virtual-Platform:/home/steven# touch testp.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop  Downloads  file2.txt  Pictures  salinan.txt  testp.sh
backup          direktori_tujuan  f1      file3.txt  pph.sh    salin.sh  Videos
checkdir.sh     Documents   f3      Music     prak1    snap
confirm.sh      dokumen.txt  file1.txt  myprog.sh  Public   Templates
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x confirm.sh testp.sh
root@steven-VMware-Virtual-Platform:/home/steven# ^C
root@steven-VMware-Virtual-Platform:/home/steven# touch confirm.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano confirm.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano testp.sh
root@steven-VMware-Virtual-Platform:/home/steven# ./testp.sh
(Yes/(N)o)/(C)ontinue? [Y] y
Jawaban YES OK
root@steven-VMware-Virtual-Platform:/home/steven#
```



```
root@steven-VMware-Virtual-Platform:/home/steven# backup          direktori_tujuan  f1      file3.txt  pph.sh    salin.sh
checkdir.sh     Documents   f3      Music     prak1    snap
confirm.sh      dokumen.txt  file1.txt  myprog.sh  Public   Templates
root@steven-VMware-Virtual-Platform:/home/steven# touch testp.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc  Desktop  Downloads  file2.txt  Pictures  salinan.txt  testp.sh
backup          direktori_tujuan  f1      file3.txt  pph.sh    salin.sh  Videos
checkdir.sh     Documents   f3      Music     prak1    snap
confirm.sh      dokumen.txt  file1.txt  myprog.sh  Public   Templates
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x confirm.sh testp.sh
root@steven-VMware-Virtual-Platform:/home/steven# ^C
root@steven-VMware-Virtual-Platform:/home/steven# touch confirm.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano confirm.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano testp.sh
root@steven-VMware-Virtual-Platform:/home/steven# ./testp.sh
(Yes/(N)o)/(C)ontinue? [Y] y
Jawaban YES OK
root@steven-VMware-Virtual-Platform:/home/steven# ./testp.sh
(Yes/(N)o)/(C)ontinue? [Y] N
Jawaban NO
root@steven-VMware-Virtual-Platform:/home/steven#
```

```
Ubuntu 64-bit - VMware Workstation
File Edit View VM Tabs Help || Library X Ubuntu 64-bit X Jul 11 01:53
Type here to search
My Computer
Mikrotik
LINUX CLEAR OS
Ubuntu 64-bit

root@steven-VMware-Virtual-Platform:/home/steven# touch testp.sh
root@steven-VMware-Virtual-Platform:/home/steven# ls
archive-key.asc Desktop Downloads file2.txt Pictures salinan.txt testp.sh
backup direktori_tujuan f1 file3.txt pph.sh salin.sh Videos
checkdir.sh Documents f3 Music prak1 snap
confirm.sh dokumen.txt file1.txt myprog.sh Public Templates
root@steven-VMware-Virtual-Platform:/home/steven# chmod +x confirm.sh testp.sh
root@steven-VMware-Virtual-Platform:/home/steven# ^C
root@steven-VMware-Virtual-Platform:/home/steven# touch confirmp.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano confirmp.sh
root@steven-VMware-Virtual-Platform:/home/steven# nano testp.sh
root@steven-VMware-Virtual-Platform:/home/steven# ./testp.sh
(Y)es/(N)o/(C)ontinue? [Y] y
Jawaban YES OK
root@steven-VMware-Virtual-Platform:/home/steven# ./testp.sh
(Y)es/(N)o/(C)ontinue? [Y] N
Jawaban NO
root@steven-VMware-Virtual-Platform:/home/steven# ./testp.sh
(Y)es/(N)o/(C)ontinue? [Y] C
Jawaban CONTINUE
root@steven-VMware-Virtual-Platform:/home/steven#
```

Ubuntu 64-bit - VMware Workstation

File Edit View VM Tabs Help || Library

Type here to search

My Computer

- Mikrotik
- LINUX CLEAR OS
- Ubuntu 64-bit

Home Ubuntu 64-bit Jul 11 01:54

root@steven-Vmware-Virtual-Platform:/home/steven

```
backup      direktori_tujuan f1      file3.txt pph.sh    salin.sh   Videos
checkdir.sh  Documents      f3      Music      prak1     snap     Templates
confirm.sh   dokumen.txt   file1.txt myprog.sh Public
root@steven-Vmware-Virtual-Platform:/home/steven# chmod +x confirm.sh testp.sh
root@steven-Vmware-Virtual-Platform:/home/steven# ^C
root@steven-Vmware-Virtual-Platform:/home/steven# touch confirm.sh
root@steven-Vmware-Virtual-Platform:/home/steven# nano confirm.sh
root@steven-Vmware-Virtual-Platform:/home/steven# nano testp.sh
root@steven-Vmware-Virtual-Platform:/home/steven# ./testp.sh
(Y)es/(N)o/(C)ontinue? [Y] y
Jawaban YES OK
->
root@steven-Vmware-Virtual-Platform:/home/steven# ./testp.sh
(Y)es/(N)o/(C)ontinue? [Y] N
Jawaban NO
root@steven-Vmware-Virtual-Platform:/home/steven# ./testp.sh
(Y)es/(N)o/(C)ontinue? [Y] C
Jawaban CONTINUE
root@steven-Vmware-Virtual-Platform:/home/steven# ./testp.sh
(Y)es/(N)o/(C)ontinue? [Y]
Jawaban YES OK
root@steven-Vmware-Virtual-Platform:/home/steven#
```

+ Other Locations

To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

01:54 11/07/2025

Analisa dan kesimpulan :

1. Struktur Dasar Shell Script

- Semua script menggunakan shebang `#!/bin/sh` untuk menentukan interpreter.
- Penggunaan komentar (#) untuk dokumentasi dan parameter (`$1, $2, $#`) untuk input.

2. Penanganan Kondisi dan Error

- `if [$# -ne X]` untuk memastikan jumlah parameter sesuai (misal: `salin.sh` butuh 2 parameter).
- Jika tidak, keluar dengan pesan error (exit -1 atau exit 1).
- Pengecekan File/Direktori:
[-f file] untuk file, [-d dir] untuk direktori.
Contoh: `salin.sh` gagal jika file asal tidak ada atau tujuan adalah direktori.

3. Interaksi Pengguna

- Input: `read gaji (pph.sh)` atau `read answer (confirm.sh)`.
- Konfirmasi:
- `salin.sh` tanya overwrite file (Y/N).
- `confirm.sh` gunakan loop while untuk validasi jawaban (Y/N/C).

4. Operasi File dan Direktori

- Penyalinan: `cp "$fasal" "$tujuan"` di `salin.sh`.
- List Direktori: `ls -ld` di `checkdir.sh` jika parameter adalah direktori.

5. Perhitungan Matematis

- `pph.sh`:

Hitung pajak progresif dengan `expr` atau `$(())`.

Contoh: `pph=$((sisa*15/100))` untuk 15% dari 10 juta pertama.

Kesimpulan :

1. Shell Script Efektif untuk Otomatisasi
 - o Script seperti salin.sh dan checkdir.sh memudahkan operasi file/direktori dengan pengecekan error.
 - o Contoh: Menghindari overwrite file tanpa konfirmasi.
2. Interaktivitas dan Validasi
 - o Kombinasi read + kondisi (if/case) memungkinkan pembuatan program interaktif (pph.sh, confirm.sh).
 - o Fungsi confirm() reusable untuk konfirmasi di berbagai script.
3. Pentingnya Penanganan Error
 - o Pengecekan parameter (\$#) dan keberadaan file (-f/-d) wajib untuk script yang robust.
 - o Contoh: salin.sh keluar jika file asal tidak ada.
4. Fleksibilitas dengan Struktur Kontrol
 - o case ideal untuk pilihan multi-aksi (myprog.sh).
 - o Operator && dan || memungkinkan penulisan kondisi satu baris (checkdir.sh).
5. Aplikasi Matematika Sederhana
 - o Perhitungan kompleks seperti pajak (pph.sh) bisa diimplementasikan dengan operator aritmatika shell.

Link source code : <https://github.com/StevanusAndika/Belajar-bash-linux>