

## Laporan Tugas 4

### 1. Tugas Tutorial

#### a) while loop

The image shows two terminal windows side-by-side. The left window displays the command `nano while_loop.sh` being run in a terminal window titled "valentino@valentino-VirtualBox: ~/sisop/tugas4". The right window shows the script content:

```
valentino@valentino-VirtualBox: ~/sisop/tugas4$ nano while_loop.sh
GNU nano 6.2
while [ $a -le 20 ]
do
echo $a
a=$((a + 3))
done
```

The left window then runs the script with `bash while_loop.sh`, showing the output of numbers from 0 to 18.

```
valentino@valentino-VirtualBox: ~/sisop/tugas4$ bash while_loop.sh
0
3
6
9
12
15
18
```

#### b) for loop 1 and 2

The image shows two terminal windows side-by-side. The left window displays the command `nano for_loop1.sh` being run in a terminal window titled "valentino@valentino-VirtualBox: ~/sisop/tugas4". The right window shows the script content:

```
valentino@valentino-VirtualBox: ~/sisop/tugas4$ nano for_loop1.sh
for loop1.sh
```

The left window then runs the script with `bash for_loop1.sh`, showing the output of numbers from 1 to 5.

```
valentino@valentino-VirtualBox: ~/sisop/tugas4$ bash for_loop1.sh
1
2
3
4
5
```

The right window displays the command `nano for_loop2.sh` being run in a terminal window titled "valentino@valentino-VirtualBox: ~/sisop/tugas4". The right window shows the script content:

```
valentino@valentino-VirtualBox: ~/sisop/tugas4$ nano for_loop2.sh
for loop2.sh
```

The right window then runs the script with `bash for_loop2.sh`, showing the output of numbers from 1 to 5.

```
valentino@valentino-VirtualBox: ~/sisop/tugas4$ bash for_loop2.sh
1
2
3
4
5
```

### c) until loop

The terminal window shows the following steps:

- The user creates the file with `nano until_loop.sh`.
- The script content is:

```
a=0
until [ $a -lt 10 ]
do
echo $a
a=$((a+2))
done
```

- The user runs the script with `./until_loop.sh`, which outputs the numbers 0, 2, 4, 6, and 8.

## 2. Latihan soal

The terminal window shows the following steps:

- The user creates the file with `nano Tugas_4.sh`.
- The script content is:

```
#!/bin/bash
for (( i=1; i<16; i++ ))
do
echo $i
done
```

- The user runs the script with `./Tugas_4.sh`, which outputs the numbers from 1 to 15.