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Kelas Sisop A

**Perulangan** (Looping) merupakan struktur program yang digunakan untuk melakukan perintah atau statement yang sama secara terus menerus dengan cara efisien dan efektif selama kondisi tersebut terpenuhi. Perulangan dibagi menjadi 4 macam yaitu :

- While loop

Digunakan untuk mengeksekus perintah berulang selama suatu kondisi terpenuhi.

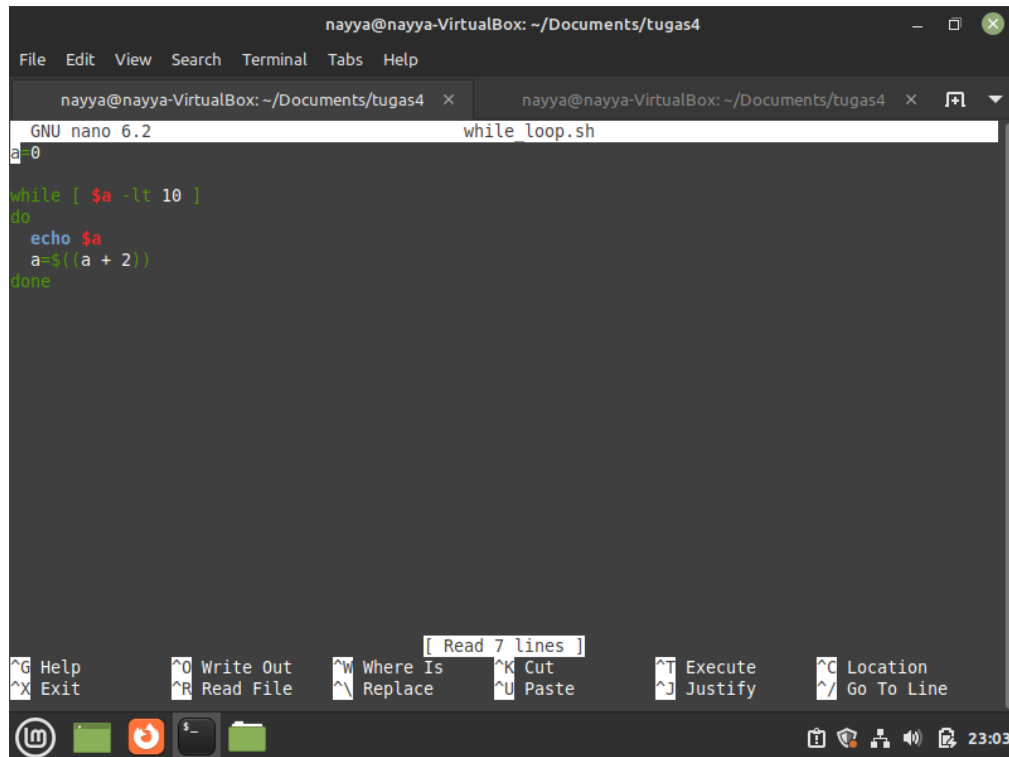
Syntax pada while loop

```
while kondisi
```

```
do
```

```
    perintah
```

```
done
```

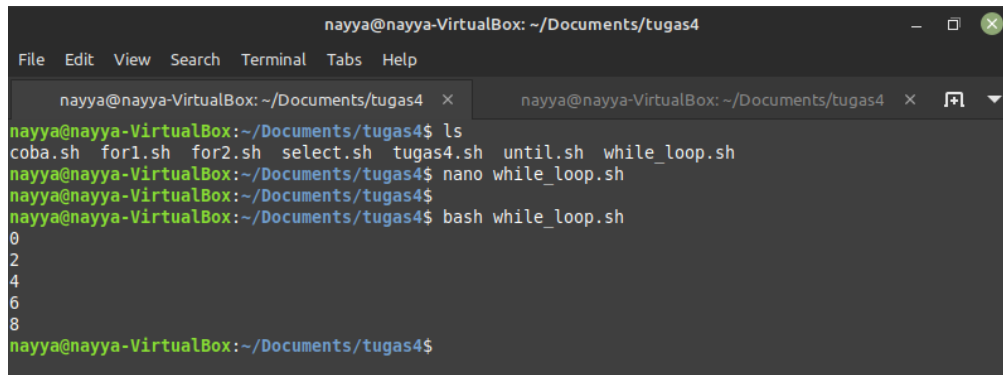


The screenshot shows a terminal window titled 'nayya@nayya-VirtualBox: ~/Documents/tugas4'. The window contains a nano editor with a file named 'while\_loop.sh'. The script content is as follows:

```
GNU nano 6.2      while_loop.sh
a=0

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

The terminal window also displays a menu at the bottom with various keyboard shortcuts for editing and navigation.



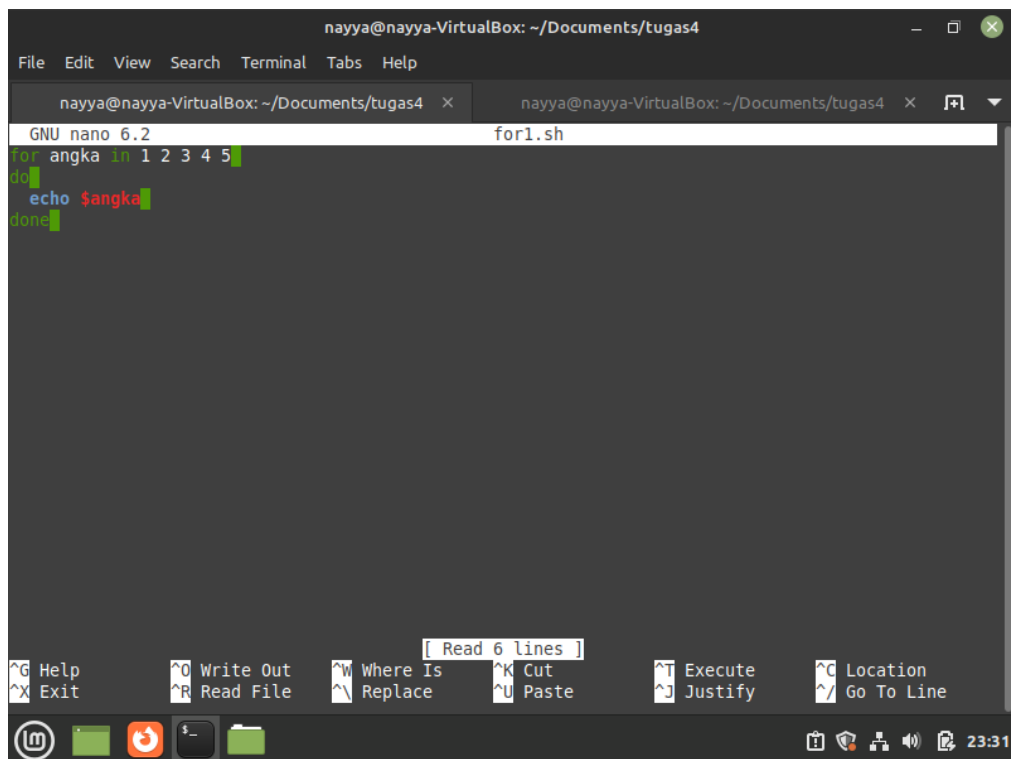
```
nayya@nayya-VirtualBox: ~/Documents/tugas4
File Edit View Search Terminal Tabs Help
nayya@nayya-VirtualBox: ~/Documents/tugas4 x nayya@nayya-VirtualBox: ~/Documents/tugas4 x
nayya@nayya-VirtualBox:~/Documents/tugas4$ ls
coba.sh for1.sh for2.sh select.sh tugas4.sh until.sh while_loop.sh
nayya@nayya-VirtualBox:~/Documents/tugas4$ nano while_loop.sh
nayya@nayya-VirtualBox:~/Documents/tugas4$ bash while_loop.sh
0
2
4
6
8
nayya@nayya-VirtualBox:~/Documents/tugas4$
```

- For loop  
Digunakan untuk mengulang serangkain perintah setiap item yang terdaftar.

Syntax for loop

```
for variabel in dafataritem
do
    perintah
done
```

Contoh For loop 1



```
nayya@nayya-VirtualBox: ~/Documents/tugas4
File Edit View Search Terminal Tabs Help
nayya@nayya-VirtualBox: ~/Documents/tugas4 x nayya@nayya-VirtualBox: ~/Documents/tugas4 x
GNU nano 6.2 for1.sh
for angka in 1 2 3 4 5
do
    echo $angka
done
[ Read 6 lines ]
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location
^X Exit ^R Read File ^_ Replace ^U Paste ^J Justify ^_ Go To Line
23:31
```

```
#! /
nayya@nayya-VirtualBox:~/Documents/tugas4$ nano for1.sh
nayya@nayya-VirtualBox:~/Documents/tugas4$ bash for1.sh
1
2
3
4
5
nayya@nayya-VirtualBox:~/Documents/tugas4$
```

## Contoh For loop 2

```
nayya@nayya-VirtualBox: ~/Documents/tugas4
File Edit View Search Terminal Tabs Help
nayya@nayya-VirtualBox: ~/Documents/tugas4 x nayya@nayya-VirtualBox: ~/Documents/tugas4 x
GNU nano 6.2 for2.sh
for (( angka=1; angka<=5; angka=angka+1 ))
do
    echo $angka
done
[ Read 5 lines ]
^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location
^X Exit      ^R Read File  ^_ Replace    ^U Paste      ^J Justify    ^_ Go To Line
```

```
nayya@nayya-VirtualBox:~/Documents/tugas4$ nano for2.sh
nayya@nayya-VirtualBox:~/Documents/tugas4$ bash for2.sh
1
2
3
4
5
nayya@nayya-VirtualBox:~/Documents/tugas4$
```

- **Select Loop**  
Dapat digunakan saat ingin membuat sebuah program dengan beberapa pilihan yang dapat dipilih user.  
Syntax select loop  
select variabel1 in daftaritem  
do  
 perintah  
done

```
nayya@nayya-VirtualBox: ~/Documents/tugas4
GNU nano 6.2 select.sh
select minuman in teh kopi air jus susu semua gaada
do
  case $minuman in
    teh|kopi|air|semua)
      echo "maaf, habis"
      ;;
    jus|susu)
      echo "tersedia"
      ;;
    gaada)
      break
      ;;
    *) echo "tidak ada di daftar menu"
      ;;
  esac
done

[ Read 16 lines ]
^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^_ Go To Line

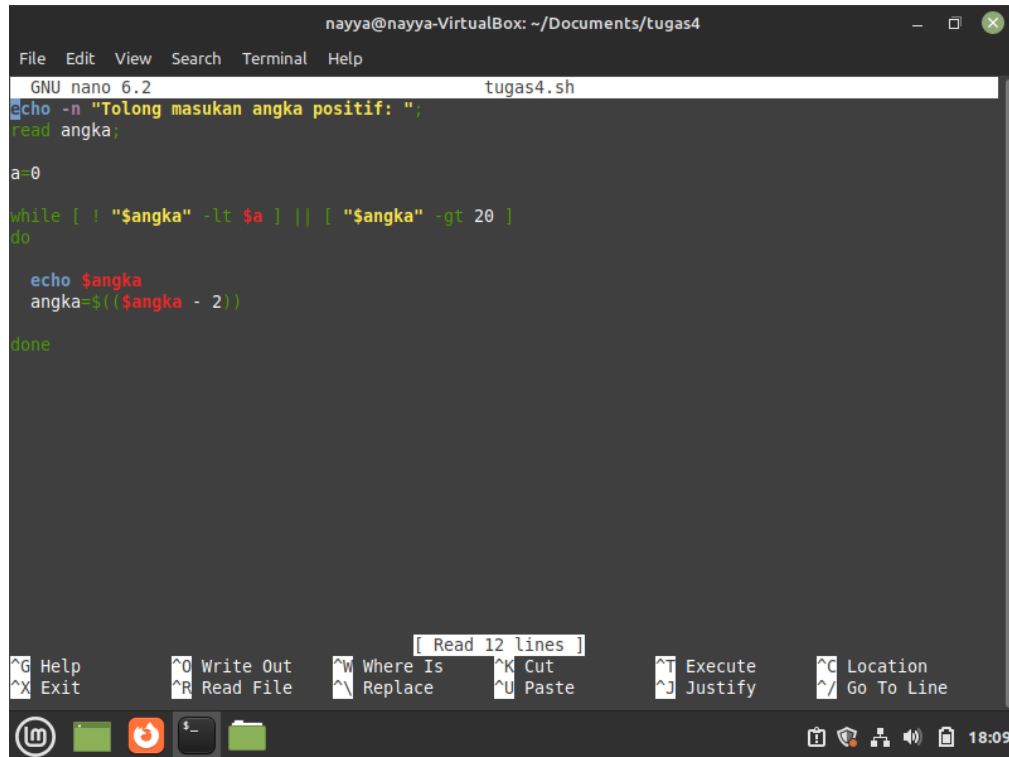
nayya@nayya-VirtualBox:~/Documents/tugas4$ nano select.sh
nayya@nayya-VirtualBox:~/Documents/tugas4$ bash select.sh
1) teh
2) kopi
3) air
4) jus
5) susu
6) semua
7) gaada
#? 1
maaf, habis
#? d
tidak ada di daftar menu
#? 7
nayya@nayya-VirtualBox:~/Documents/tugas4$
```

- Until loop  
Mengeksekusi perintah sampai suatu kondisi terpenuhi.  
Syntax until loop  
until kondisi  
do  
    perintah  
done

```
nayya@nayya-VirtualBox: ~/Documents/tugas4
File Edit View Search Terminal Tabs Help
nayya@nayya-VirtualBox: ~/Documents/tugas4 x nayya@nayya-VirtualBox: ~/Documents/tugas4 x
GNU nano 6.2 until.sh
a=0
until [ ! $a -lt 10 ]
do
    echo $a
    a=$((a + 2))
done
[ Read 7 lines ]
^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location
^X Exit      ^R Read File  ^\ Replace    ^U Paste       ^J Justify    ^_ Go To Line
[Icons] [System Tray] 23:51
```

```
nayya@nayya-VirtualBox:~/Documents/tugas4$ nano until.sh
nayya@nayya-VirtualBox:~/Documents/tugas4$ bash until.sh
0
2
4
6
8
nayya@nayya-VirtualBox:~/Documents/tugas4$
[Icons] [System Tray] 23:53
```

# Latihan Soal



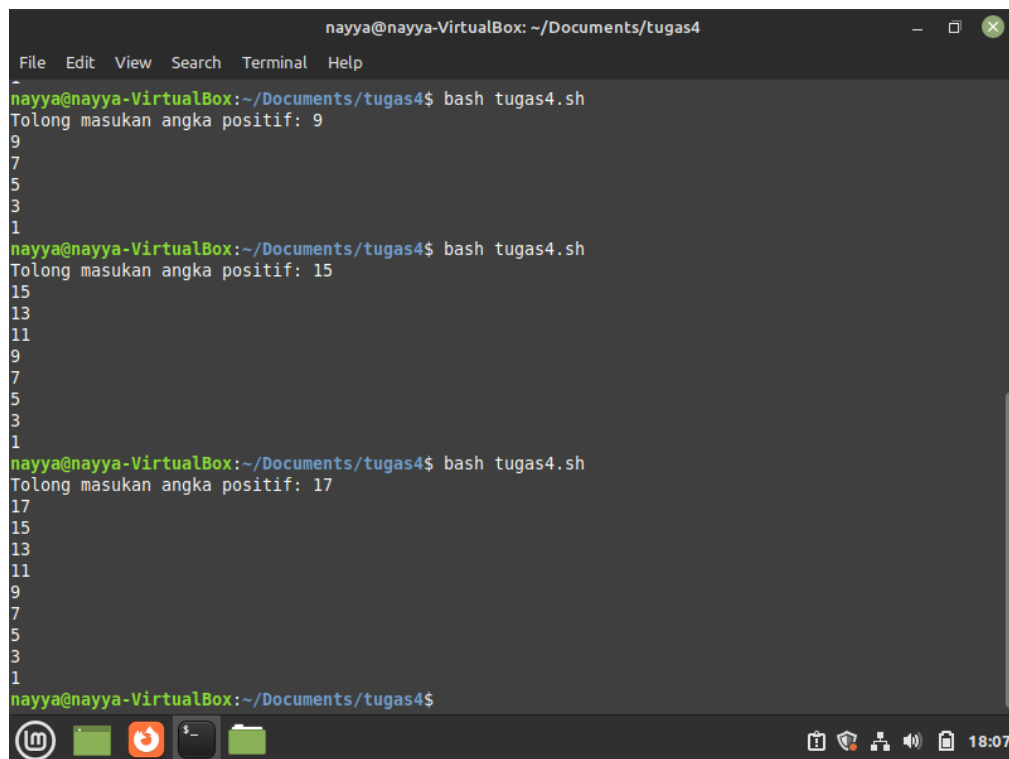
```
nayya@nayya-VirtualBox: ~/Documents/tugas4
GNU nano 6.2 tugas4.sh
echo -n "Tolong masukan angka positif: ";
read angka;

a=0

while [ ! "$angka" -lt $a ] || [ "$angka" -gt 20 ]
do

    echo $angka
    angka=$(( $angka - 2 ))

done
```



```
nayya@nayya-VirtualBox: ~/Documents/tugas4
File Edit View Search Terminal Help
nayya@nayya-VirtualBox:~/Documents/tugas4$ bash tugas4.sh
Tolong masukan angka positif: 9
9
7
5
3
1
nayya@nayya-VirtualBox:~/Documents/tugas4$ bash tugas4.sh
Tolong masukan angka positif: 15
15
13
11
9
7
5
3
1
nayya@nayya-VirtualBox:~/Documents/tugas4$ bash tugas4.sh
Tolong masukan angka positif: 17
17
15
13
11
9
7
5
3
1
nayya@nayya-VirtualBox:~/Documents/tugas4$
```