

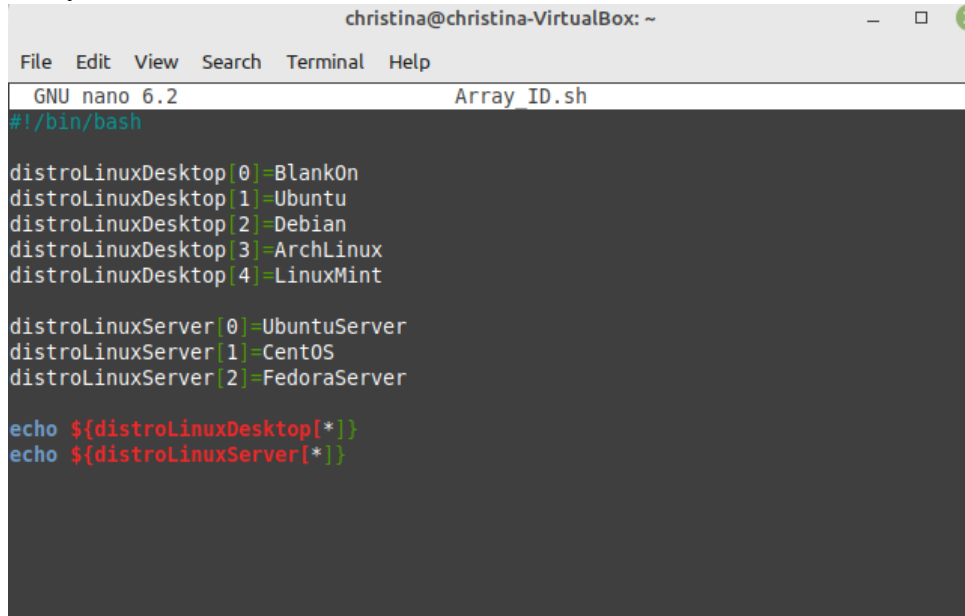
# TUGAS SISTEM OPERASI

Nama : Christina Halim

NPM : 21083010124

Mata Kuliah : Sistem Operasi-B

## 1. Array Indirect Declaration




```
christina@christina-VirtualBox: ~  
File Edit View Search Terminal Help  
GNU nano 6.2 Array_ID.sh  
#!/bin/bash  
  
distroLinuxDesktop[0]=BlankOn  
distroLinuxDesktop[1]=Ubuntu  
distroLinuxDesktop[2]=Debian  
distroLinuxDesktop[3]=ArchLinux  
distroLinuxDesktop[4]=LinuxMint  
  
distroLinuxServer[0]=UbuntuServer  
distroLinuxServer[1]=CentOS  
distroLinuxServer[2]=FedoraServer  
  
echo ${distroLinuxDesktop[*]}  
echo ${distroLinuxServer[*]}
```

Output :

```
christina@christina-VirtualBox:~$ bash Array_ID.sh  
BlankOn Ubuntu Debian ArchLinux LinuxMint  
UbuntuServer CentOS FedoraServer  
christina@christina-VirtualBox:~$
```

## 2. Array Explicit Declaration



```
christina@christina-VirtualBox: ~  
File Edit View Search Terminal Help  
GNU nano 6.2 Array_ED.sh  
#!/bin/bash  
  
declare -a angka  
  
i=0  
while [ $i -le 4 ];  
do  
    let isi=$i*2;  
    angka[$i]=$isi;  
    let i=$i+1;  
done  
  
echo ${angka[@]}
```

Output :

```
christina@christina-VirtualBox:~$ bash Array_ED.sh
0 2 4 6 8
christina@christina-VirtualBox:~$
```

### 3. Array Compound Assignment

```
christina@christina-VirtualBox: ~
File Edit View Search Terminal Help
GNU nano 6.2 Array_CA.sh
#!/bin/bash

distroLinuxDesktop=('BlankOn' 'Ubuntu' 'Debian' 'ArchLinux' 'LinuxMint')
distroLinuxServer=('UbuntuServer' 'CentOS' 'FedoraServer')

echo ${distroLinuxDesktop[*]}
echo ${distroLinuxServer[*]}
```

Output :

```
christina@christina-VirtualBox:~$ bash Array_CA.sh
BlankOn Ubuntu Debian ArchLinux LinuxMint
christina@christina-VirtualBox:~$
```

### 4. Array Multi Dimensi

```
christina@christina-VirtualBox: ~
File Edit View Search Terminal Help
GNU nano 6.2 Array_MD.sh
#!/bin/bash

array2dimensi="1.1:1.2:1.3:1.4 2.1:2.2:2.3:2.4 3.1:3.2:3.3:3.4"

function dimensiBaris {
    for baris in $array2dimensi
    do
        dimensiKolom `echo $baris | tr : " "`
    done
}

function dimensiKolom {
    for kolom in $*
    do
        echo -n $kolom " "
    done
    echo
}

dimensiBaris
```

Output :

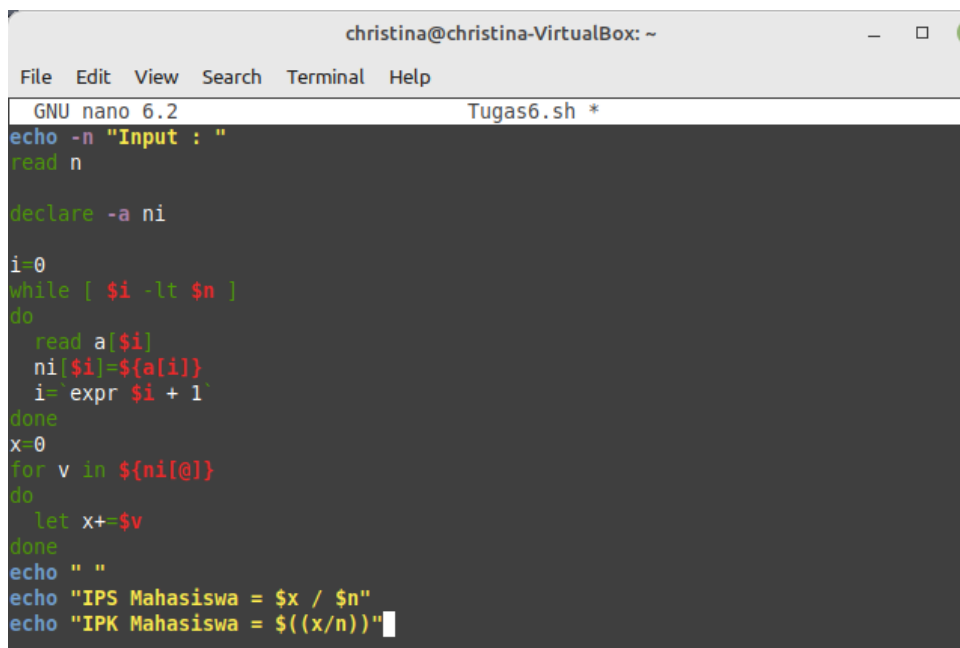
```
christina@christina-VirtualBox:~$ bash Array_MD.sh
1.1 1.2 1.3 1.4
2.1 2.2 2.3 2.4
3.1 3.2 3.3 3.4
christina@christina-VirtualBox:~$
```

### Latihan Soal

Buatlah program array yang dapat menghitung nilai IPK mahasiswa yang menerapkan beberapa konsep pemrograman bash seperti diatas dengan ketentuan sbb!

- User input data array IPSMahasiswa[index]
- $IPK = (\text{jumlah nilai IPS}) / (\text{jumlah data IPS})$

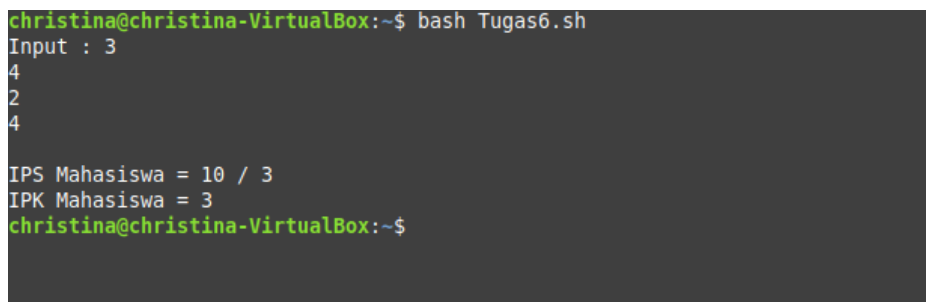
Penyelesaian :



```
christina@christina-VirtualBox: ~  
File Edit View Search Terminal Help  
GNU nano 6.2 Tugas6.sh *  
echo -n "Input : "  
read n  
  
declare -a ni  
  
i=0  
while [ $i -lt $n ]  
do  
    read a[$i]  
    ni[$i]=$(a[$i])  
    i=$((i + 1))  
done  
x=0  
for v in ${ni[@]}  
do  
    let x+=v  
done  
echo "  
echo "IPS Mahasiswa = $x / $n"  
echo "IPK Mahasiswa = $((x/n))"
```

User menginputkan nilai beberapa nilai semester mahasiswa dimana nilai tersebut akan di masukkan dalam variable n. Di deklarasikan i=0 dan ni untuk mendapatkan indeks dimana  $i < n$ . Nilai input a dimasukkan dalam indeks i sehingga nilai a[i] dimasukkan dalam array ni. Perulangan dilakukan hingga syarat terpenuhi.

Output :



```
christina@christina-VirtualBox:~$ bash Tugas6.sh  
Input : 3  
4  
2  
4  
  
IPS Mahasiswa = 10 / 3  
IPK Mahasiswa = 3  
christina@christina-VirtualBox:~$
```