



INTRODUCTION TO LINUX

LECTURE (10)

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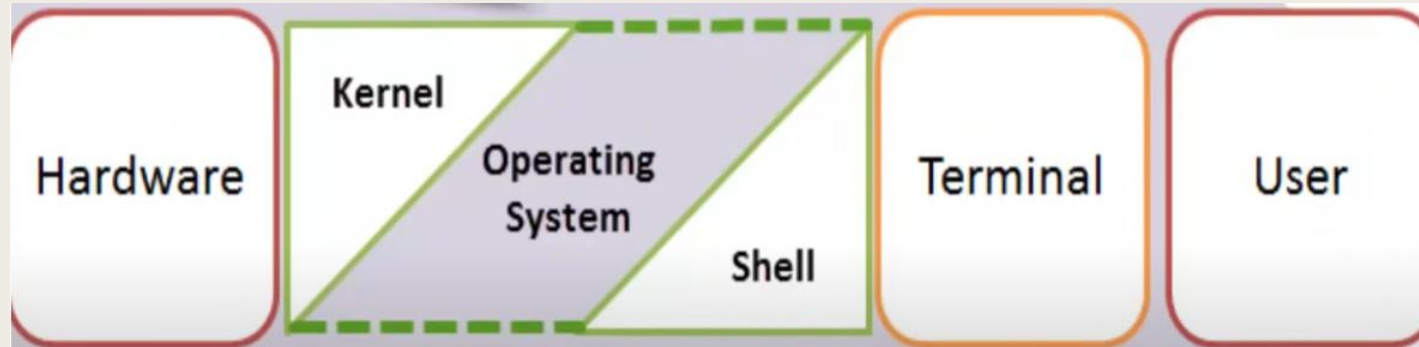


Agenda

- Shell scripting
- Conditional statement
- Loop statement

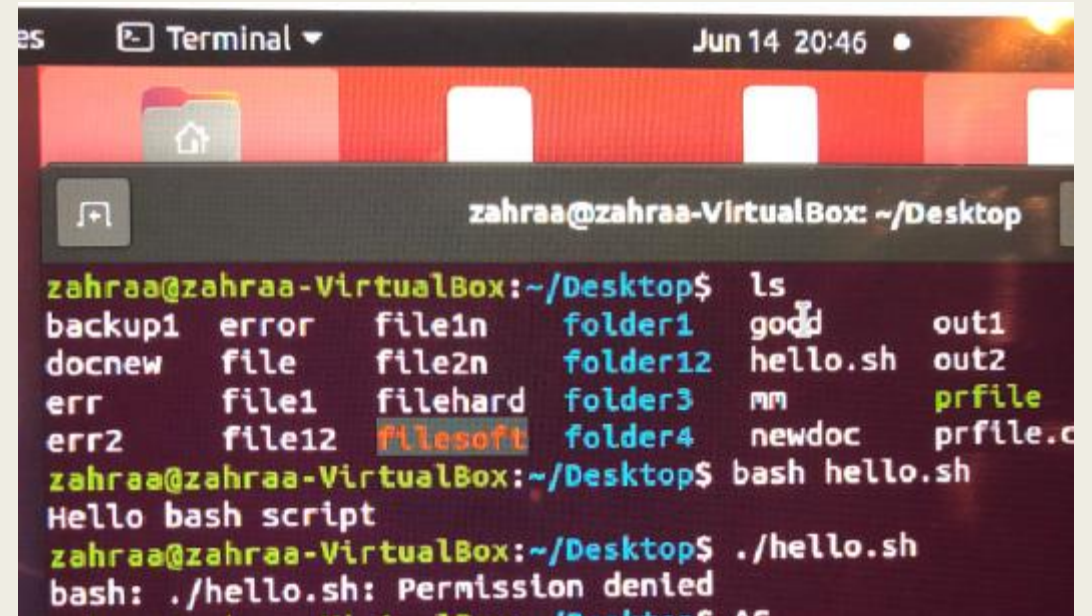
Kernel and shell

- Kernel is



How to create a shell script

1. First create a **file** using the vi or text editor
2. Name the file name.sh
3. Start script with `#!/bin/bash`
4. Write a code
5. Save file
6. For executing type **`bash name.sh`**



```
es Terminal Jun 14 20:46
zahraa@zahraa-VirtualBox: ~/Desktop
zahraa@zahraa-VirtualBox:~/Desktop$ ls
backup1  error   file1n  folder1  godd    out1
docnew   file    file2n  folder12 hello.sh out2
err       file1   filehard folder3  mm      prfile
err2     file12  filesort folder4  newdoc  prfile.c
zahraa@zahraa-VirtualBox:~/Desktop$ bash hello.sh
Hello bash script
zahraa@zahraa-VirtualBox:~/Desktop$ ./hello.sh
bash: ./hello.sh: Permission denied
```

Direct using shell

- You can direct your output in another file:

Same direction rules are applied in shell

```
#!/bin/bash
```

```
echo "Hello bash script" > file1
```

To get an output from the shell and store it in another file

- In the file.sh

`#!/bin/bash`

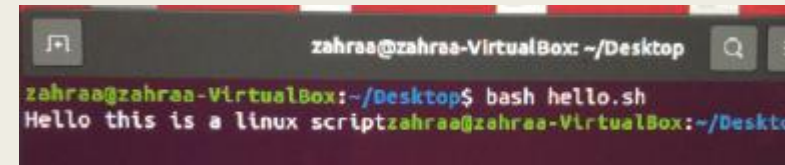
`cat > file`

Then run the file

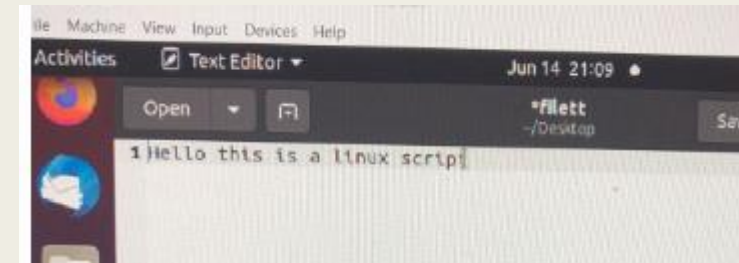
`bash file.sh`

Then write the command

Then ^D

A terminal window titled 'zahraa@zahraa-VirtualBox: ~/Desktop'. The prompt is 'zahraa@zahraa-VirtualBox:~/Desktop\$'. The user has entered 'bash hello.sh' and the output is 'Hello this is a linux script'.

```
zahraa@zahraa-VirtualBox: ~/Desktop
zahraa@zahraa-VirtualBox:~/Desktop$ bash hello.sh
Hello this is a linux script
```

A text editor window titled 'Text Editor' with a menu bar (File, Machine, View, Input, Devices, Help) and a status bar (Jun 14 21:09). The file is named 'file.sh' and is located at '~/Desktop'. The content of the file is '1)hello this is a linux scrip'.

```
File Machine View Input Devices Help
Text Editor
Jun 14 21:09
file.sh
~/Desktop
1)hello this is a linux scrip
```

Exercise

- Append the text “Thank you for attending” into **file** after “This is a Linux script”

How to write a comment

- To comment a single line → # write your comment
- To comment more than one line → : ' write your comments '

```
#!/bin/bash
```

```
# this is mycode
```

```
: ' this is mycode1
```

```
this is my code2 '
```

```
cat >> file
```


Write a conditional statement

```
#!/bin/bash
```

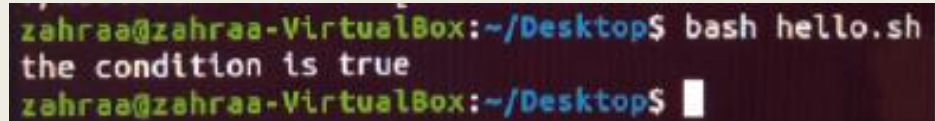
```
count=10
```

```
if [ $count -eq 10 ]
```

```
then
```

```
echo "the condition is true"
```

```
fi
```

A terminal window screenshot showing the execution of a script. The prompt is 'zahraa@zahraa-VirtualBox:~/Desktop\$'. The user enters 'bash hello.sh'. The output is 'the condition is true'. The prompt returns to 'zahraa@zahraa-VirtualBox:~/Desktop\$' with a cursor.

```
zahraa@zahraa-VirtualBox:~/Desktop$ bash hello.sh  
the condition is true  
zahraa@zahraa-VirtualBox:~/Desktop$
```

exercise

- Use the if-else in the same code

exercise

Use the if-else in the same code

```
#!/bin/bash
```

```
count=10
```

```
if [ $count -eq 10 ]
```

```
then
```

```
echo "the condition is true"
```

```
else
```

```
echo "the condition is false"
```

```
fi
```

If Comparison

Greater than → -gt

Equal to → -eq

Less than → -lt

Not equal → -ne

If- two conditions

```
#!/bin/bash
```

```
count=9
```

```
if [ $count -eq 10 ] && [ $count -lt 12 ]
```

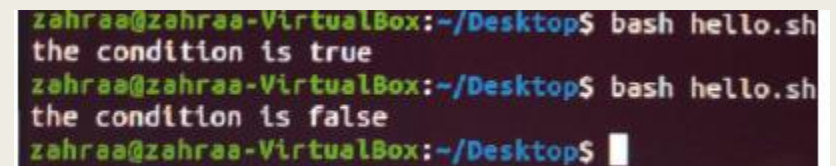
```
then
```

```
echo "the condition is true"
```

```
else
```

```
echo "the condition is false"
```

```
fi
```

A terminal window screenshot showing the execution of a script named 'hello.sh'. The prompt is 'zahraa@zahraa-VirtualBox:~/Desktop\$'. The first run shows 'the condition is true'. The second run shows 'the condition is false'.

```
zahraa@zahraa-VirtualBox:~/Desktop$ bash hello.sh
the condition is true
zahraa@zahraa-VirtualBox:~/Desktop$ bash hello.sh
the condition is false
zahraa@zahraa-VirtualBox:~/Desktop$
```

loop

- Using the while loop

```
#!/bin/bash
```

```
count=1
```

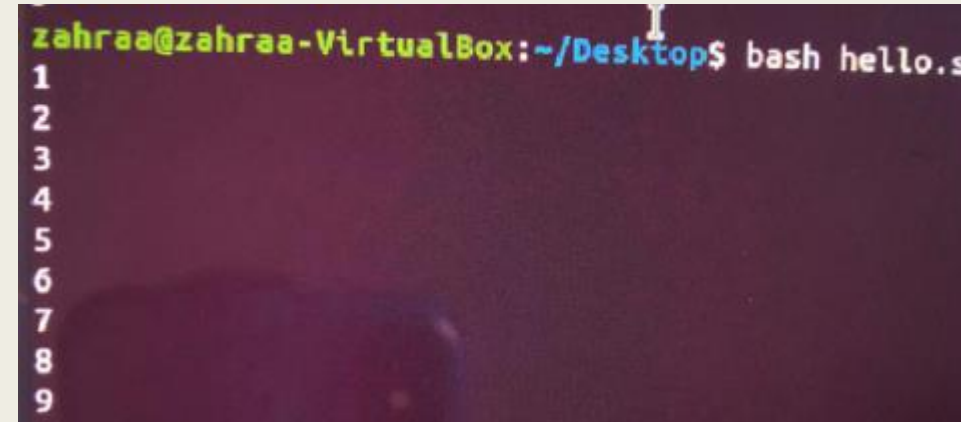
```
while [ $count -lt 10 ]
```

```
do
```

```
echo "$count"
```

```
count=$(( count+1 ))
```

```
done
```



A terminal window screenshot showing a script execution. The prompt is 'zahraa@zahraa-VirtualBox: ~/Desktop\$'. The command 'bash hello.s' is entered. The output shows a vertical list of numbers from 1 to 9, representing the output of the while loop script.

```
zahraa@zahraa-VirtualBox: ~/Desktop$ bash hello.s
1
2
3
4
5
6
7
8
9
```

loop

■ For loop

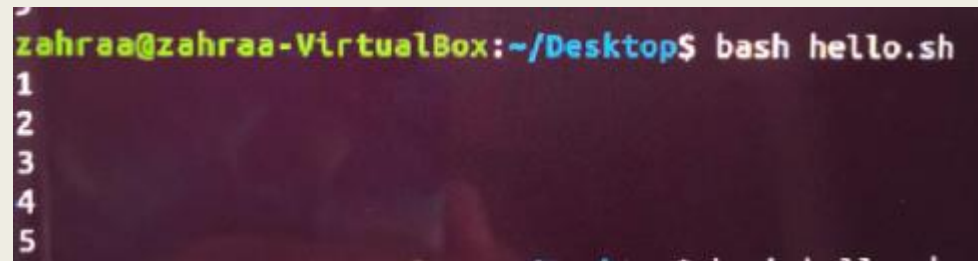
```
#!/bin/bash
```

```
for i in 1 2 3 4 5
```

```
do
```

```
echo $i
```

```
done
```

A terminal window with a dark background. The prompt is 'zahraa@zahraa-VirtualBox:~/Desktop\$'. The command 'bash hello.sh' has been entered. The output shows a vertical list of numbers 1 through 5, each on a new line, indicating the execution of a for loop.

```
zahraa@zahraa-VirtualBox:~/Desktop$ bash hello.sh
1
2
3
4
5
```