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Registration Number: 4382-FOC/BSSE/F22 - A

Subject: Operation System

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Lab no. 6:

Objective: Exploring Different Linux Commands regarding variables, loop and AND operator:

1. export files="abc.txt map.txt" command:

We can also create variables like in other programming languages and can store our data in these variables. Here's how can we:

```
-sh-4.2$ export files="abc.txt map.txt"
-sh-4.2$ echo $files
abc.txt map.txt
-sh-4.2$ whoami
UmaiOP
```

2. Echo \$files command:

We can also see the variable we created in this way::

```
-sh-4.2$ echo $files
abc.txt map.txt
-sh-4.2$ whoami
UmaiOP
```

3. export path="/home" command:

We can also create paths variable in Linux in which we can store paths like this way:

```
-sh-4.2$ export path="/home"
-sh-4.2$ echo $path
/home
-sh-4.2$ whoami
UmaiOP
```

4. env UmaiOP=" " command:

We can also create environment variables in this way:

```

[sh-4.2$ env UmairOP=" "
XDG_SESSION_ID=2298941
HOSTNAME=139-162-5-218
SHELL=/bin/bash
TERM=xterm
HISTSIZE=1000
USER=UmairOP
LS_COLORS=rs=0:di=01;34:ln=01;36:mh=00:pi=40;33:so=01;35:do=01;35:bd=40;33;01:cd=40;33;01:or=40;31;01:mi=01;05;37;41:su=37;41:sg=30;43:ca=30;41:tw=30;42:ow=34;42:st=37;44:ex=01;32:*.tar=01;31:*.tgz=01;31:*.arc=01;31:*.arj=01;31:*.taz=01;31:*.lha=01;31:*.lz4=01;31:*.lzh=01;31:*.lzma=01;31:*.tlz=01;31:*.txz=01;31:*.tzo=01;31:*.t7z=01;31:*.zip=01;31:*.z=01;31:*.Z=01;31:*.dz=01;31:*.gz=01;31:*.lrz=01;31:*.lz=01;31:*.lzo=01;31:*.xz=01;31:*.bz2=01;31:*.bz=01;31:*.tbz=01;31:*.tbz2=01;31:*.tz=01;31:*.deb=01;31:*.rpm=01;31:*.jar=01;31:*.war=01;31:*.ear=01;31:*.sar=01;31:*.rar=01;31:*.alz=01;31:*.ace=01;31:*.zoo=01;31:*.cpio=01;31:*.7z=01;31:*.rz=01;31:*.cab=01;31:*.jpg=01;35:*.jpeg=01;35:*.gif=01;35:*.bmp=01;35:*.pbm=01;35:*.pgm=01;35:*.ppm=01;35:*.tga=01;35:*.xbm=01;35:*.xpm=01;35:*.tif=01;35:*.tiff=01;35:*.png=01;35:*.svg=01;35:*.svgz=01;35:*.mng=01;35:*.pcx=01;35:*.mov=01;35:*.mpg=01;35:*.mpeg=01;35:*.m2v=01;35:*.mkv=01;35:*.webm=01;35:*.ogm=01;35:*.mp4=01;35:*.m4v=01;35:*.mp4v=01;35:*.vob=01;35:*.qt=01;35:*.nuv=01;35:*.wmv=01;35:*.asf=01;35:*.rm=01;35:*.rmvb=01;35:*.flc=01;35:*.avi=01;35:*.fli=01;35:*.flv=01;35:*.gl=01;35:*.dl=01;35:*.xcf=01;35:*.xwd=01;35:*.yuv=01;35:*.cgm=01;35:*.emf=01;35:*.axv=01;35:*.anx=01;35:*.ogv=01;35:*.ogx=01;35:*.aac=01;36:*.au=01;36:*.flac=01;36:*.mid=01;36:*.midi=01;36:*.mka=01;36:*.mp3=01;36:*.mpc=01;36:*.ogg=01;36:*.ra=01;36:*.wav=01;36:*.axa=01;36:*.oga=01;36:*.spx=01;36:*.xspf=01;36:
COLUMNS=104
path=/home
MAIL=/var/spool/mail/UmairOP
PATH=/usr/local/bin:/bin:/usr/bin:/usr/local/sbin:/usr/sbin
PWD=/home/UmairOP
LANG=en_US.UTF-8
files=abc.txt map.txt
LINES=41
HISTCONTROL=ignoredups
SHLVL=1
HOME=/home/UmairOP
SHELLINABOX_REALIP=111.68.97.179
SHELLINABOX_URL=https://webminal.org/terminal/proxy/index/
LOGNAME=UmairOP
LESSOPEN=||/usr/bin/lesspipe.sh %s
SHELLINABOX_PEERNAME=localhost
XDG_RUNTIME_DIR=/run/user/342162
_=/bin/env
UmairOP=

```

5. printenv UmairOP command:

We can check the current value of UmairOP in my shell environment in this way:

```

[sh-4.2$ printenv UmairOP
[sh-4.2$ whoami
UmairOP
[sh-4.2$ █

```

6. history command:

We can check our history of all the commands we run in our terminal.

-sh-4.2\$ history

1	* cal may
2	*cal-may
3	*cal 5 2010
4	cal 5
5	cal 10 2010
6	cal 2010
7	cal 1 2025
8	clrscr
9	clr
10	clrscn
11	date
12	time
13	whoami
14	cal 1 2025
15	cal 2024
16	date
17	whoami
18	date
19	cal 2024
20	cal 2 2025
21	man
22	1
23	man cal
24	ls
25	touch abc.txt
26	touch abc
27	cat abc.txt
28	cat>abc.txt
29	ls
30	touch def.txt
31	whoami
32	date
33	cal 2024
34	cal 2 2025
35	date a
36	date +/b
37	touch abc.txt
38	ls
39	clear
40	man date

7. !cd command:

This command recalls and returns the last command in which I used the cd command.

```
-sh-4.2$ !cd
cd BSSE
-sh: cd: BSSE: No such file or directory
-sh-4.2$ whoami
UmaiOP
```

8. !ls command:

We can check the command in which we last used ls command.

```
-sh-4.2$ !ls
ls *.txt
abc.txt  def.txt
-sh-4.2$ whoami
UmaiOP
```

9. FOR Loop:

We can also use for loop in Linux OS in this way:

```
-sh-4.2$ for demo in 1234; do echo "number: "$i; done
number: 5}
-sh-4.2$
-sh-4.2$ whoami
UmaiOP
```

10. For i in {1, 2, 3, 4, 5} command:

```
-sh-4.2$ for i in {1, 2, 3, 4, 5}
> do
> echo "num: "$i
> done
num: {1,
num: 2,
num: 3,
num: 4,
num: 5}
-sh-4.2$ whoami
UmairOP
```

11. for i in {1..20}; command:

```
-sh-4.2$ for i in {1..20}; do echo "num: "$i; done
num: 1
num: 2
num: 3
num: 4
num: 5
num: 6
num: 7
num: 8
num: 9
num: 10
num: 11
num: 12
num: 13
num: 14
num: 15
num: 16
num: 17
num: 18
num: 19
num: 20
-sh-4.2$ whoami
UmairOP
```

12. for i in {1..20..5} command:

```
-sh-4.2$ for i in {1..20..5}; do echo "num: "$i; sleep; done
num: 1
sleep: missing operand
Try 'sleep --help' for more information.
num: 6
sleep: missing operand
Try 'sleep --help' for more information.
num: 11
sleep: missing operand
Try 'sleep --help' for more information.
num: 16
sleep: missing operand
Try 'sleep --help' for more information.
-sh-4.2$ whoami
UmaiOP _
```

13. mkdir TTT && ls command:

This command only and only executed when both commands are true:

```
-sh-4.2$ mkdir TTT && ls
abc.txt def.txt IIUI Pakistan-Territory TTT UmaiOP who-knows xyz
-sh-4.2$ whoami
UmaiOP
-sh-4.2$
```

14. !cd command:

This command recalls and returns the last command in which I used the cd command.

```
-sh-4.2$ !cd
cd BSSE
-sh: cd: BSSE: No such file or directory
-sh-4.2$ whoami
UmaiOP
```

15. !ls command:

We can check the command in which we last used ls command.

```
-sh-4.2$ !ls
ls *.txt
abc.txt  def.txt
-sh-4.2$ whoami
Umairop
```