

# Lecture 4 Linux

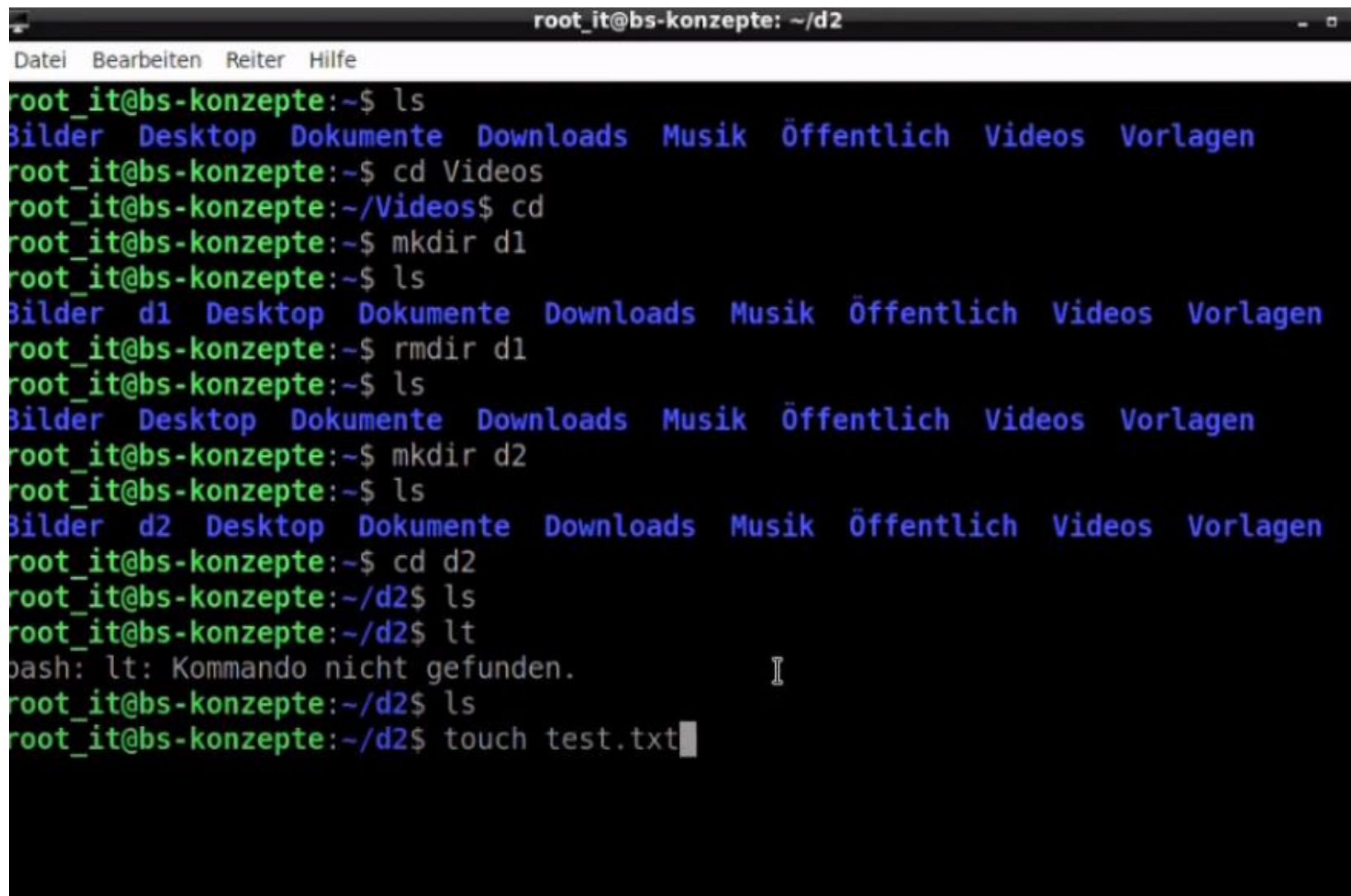
Text file by CLI

# Essential Command Lines

- Whoami: know current user
- PWD: know the current path
- Clear: clear the screen from commands
- LS: contents of the path (files and folders)
- CD foldername: to enter into the folder
- CD..: oneback
- CP filename: copy
- RM filename: remove file
- Mkdir: create folder
- Rmdir: remove folder
- Man: describe the instruction

**Text file by CLI**

“touch filename.txt” to create new text file

A terminal window titled 'root\_it@bs-konzepte: ~/d2' with a menu bar containing 'Datei', 'Bearbeiten', 'Reiter', and 'Hilfe'. The terminal shows a sequence of commands: 'ls' (listing files), 'cd Videos' (changing directory), 'cd' (confirming the directory change), 'mkdir d1' (creating a subdirectory), 'ls' (listing files including 'd1'), 'rmdir d1' (removing the subdirectory), 'ls' (listing files), 'mkdir d2' (creating another subdirectory), 'ls' (listing files including 'd2'), 'cd d2' (changing to the new subdirectory), 'ls' (listing files in 'd2'), 'lt' (resulting in an error message 'bash: lt: Kommando nicht gefunden.'), and finally 'touch test.txt' (creating a new text file). The cursor is at the end of the last command.

```
root_it@bs-konzepte: ~/d2
Datei Bearbeiten Reiter Hilfe
root_it@bs-konzepte:~$ ls
Bilder Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ cd Videos
root_it@bs-konzepte:~/Videos$ cd
root_it@bs-konzepte:~$ mkdir d1
root_it@bs-konzepte:~$ ls
Bilder d1 Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ rmdir d1
root_it@bs-konzepte:~$ ls
Bilder Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ mkdir d2
root_it@bs-konzepte:~$ ls
Bilder d2 Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ cd d2
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ lt
bash: lt: Kommando nicht gefunden.
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ touch test.txt
```

To check

```
root_it@bs-konzepte: ~/d2
Datei Bearbeiten Reiter Hilfe
root_it@bs-konzepte:~$ ls
Bilder Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ cd Videos
root_it@bs-konzepte:~/Videos$ cd
root_it@bs-konzepte:~$ mkdir d1
root_it@bs-konzepte:~$ ls
Bilder d1 Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ rmdir d1
root_it@bs-konzepte:~$ ls
Bilder Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ mkdir d2
root_it@bs-konzepte:~$ ls
Bilder d2 Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ cd d2
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ lt
bash: lt: Kommando nicht gefunden.
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ touch test.txt
root_it@bs-konzepte:~/d2$ ls
test.txt
root_it@bs-konzepte:~/d2$
```

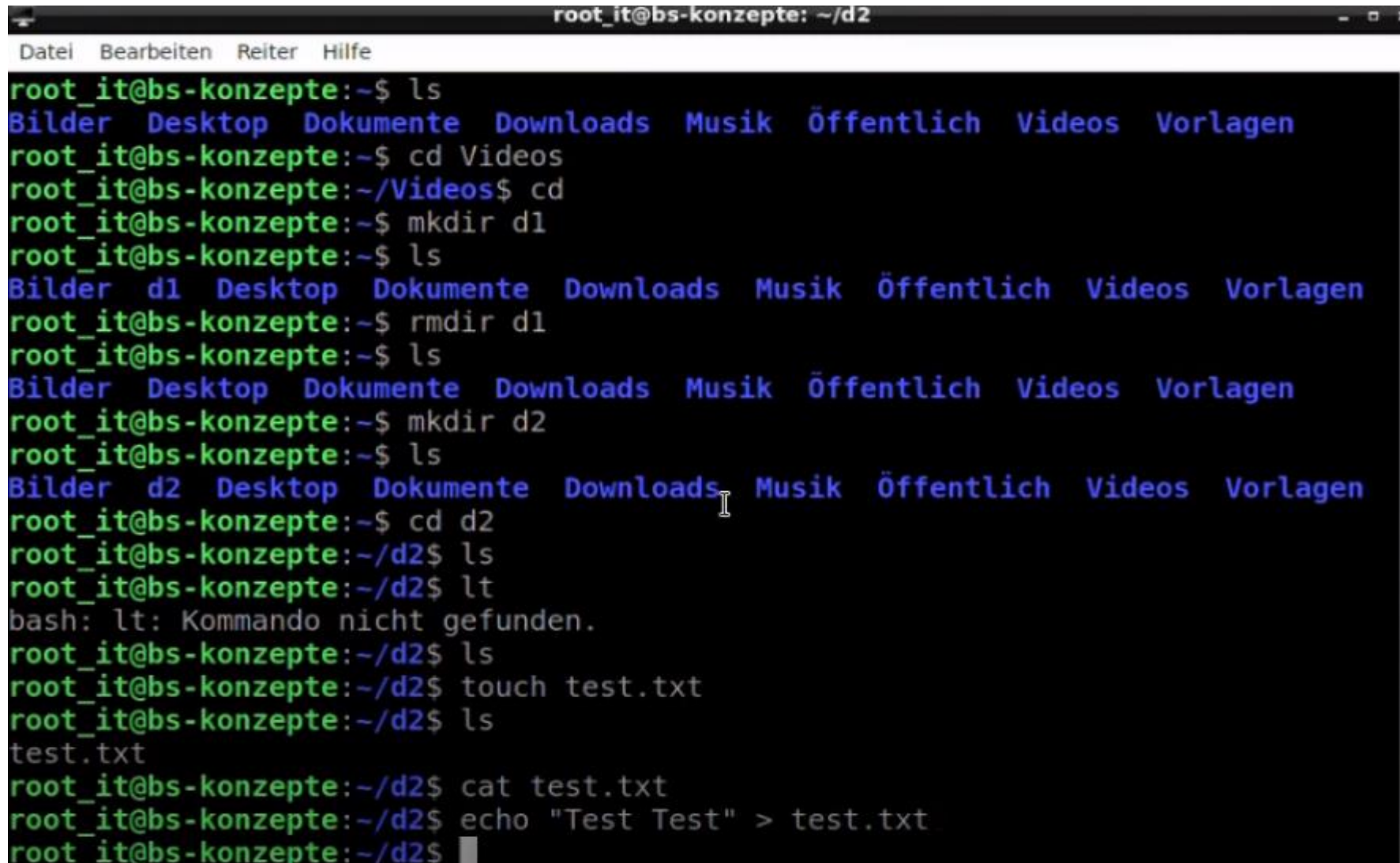
“cat filename.txt” to know the content **empty**

```
root_it@bs-konzepte: ~/d2
Datei Bearbeiten Reiter Hilfe
root_it@bs-konzepte:~$ ls
Bilder Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ cd Videos
root_it@bs-konzepte:~/Videos$ cd
root_it@bs-konzepte:~$ mkdir d1
root_it@bs-konzepte:~$ ls
Bilder d1 Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ rmdir d1
root_it@bs-konzepte:~$ ls
Bilder Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ mkdir d2
root_it@bs-konzepte:~$ ls
Bilder d2 Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ cd d2
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ lt
bash: lt: Kommando nicht gefunden.
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ touch test.txt
root_it@bs-konzepte:~/d2$ ls
test.txt
root_it@bs-konzepte:~/d2$ cat test.txt
root_it@bs-konzepte:~/d2$
```

- “touch filename.txt” to create new text file
- Check by LS
- Cat filename.txt to know the content or text in the file



echo "the text" > filename.txt  
To write into text file



```
root_it@bs-konzepte: ~/d2
Datei Bearbeiten Reiter Hilfe
root_it@bs-konzepte:~$ ls
Bilder Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ cd Videos
root_it@bs-konzepte:~/Videos$ cd
root_it@bs-konzepte:~$ mkdir d1
root_it@bs-konzepte:~$ ls
Bilder d1 Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ rmdir d1
root_it@bs-konzepte:~$ ls
Bilder Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ mkdir d2
root_it@bs-konzepte:~$ ls
Bilder d2 Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ cd d2
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ lt
bash: lt: Kommando nicht gefunden.
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ touch test.txt
root_it@bs-konzepte:~/d2$ ls
test.txt
root_it@bs-konzepte:~/d2$ cat test.txt
root_it@bs-konzepte:~/d2$ echo "Test Test" > test.txt
root_it@bs-konzepte:~/d2$
```

“cat filename.txt” to know the content

```
root_it@bs-konzepte: ~/d2
Datei Bearbeiten Reiter Hilfe
root_it@bs-konzepte:~$ cd Videos
root_it@bs-konzepte:~/Videos$ cd
root_it@bs-konzepte:~$ mkdir d1
root_it@bs-konzepte:~$ ls
Bilder d1 Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ rmdir d1
root_it@bs-konzepte:~$ ls
Bilder Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ mkdir d2
root_it@bs-konzepte:~$ ls
Bilder d2 Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ cd d2
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ lt
bash: lt: Kommando nicht gefunden.
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ touch test.txt
root_it@bs-konzepte:~/d2$ ls
test.txt
root_it@bs-konzepte:~/d2$ cat test.txt
root_it@bs-konzepte:~/d2$ echo "Test Test" > test.txt
root_it@bs-konzepte:~/d2$ cat test.txt
Test Test
root_it@bs-konzepte:~/d2$
```

If use the same command “echo” with new text--→ overwrite and delete the old text

```
root_it@bs-konzepte: ~/d2
Datei Bearbeiten Reiter Hilfe
root_it@bs-konzepte:~$ ls
Bilder d1 Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ rmdir d1
root_it@bs-konzepte:~$ ls
Bilder Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ mkdir d2
root_it@bs-konzepte:~$ ls
Bilder d2 Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ cd d2
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ lt
bash: lt: Kommando nicht gefunden.
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ touch test.txt
root_it@bs-konzepte:~/d2$ ls
test.txt
root_it@bs-konzepte:~/d2$ cat test.txt
root_it@bs-konzepte:~/d2$ echo "Test Test" > test.txt
root_it@bs-konzepte:~/d2$ cat test.txt
Test Test
root_it@bs-konzepte:~/d2$ echo "Test2 Test2" > test.txt
root_it@bs-konzepte:~/d2$ cat test.txt
Test2 Test2
root_it@bs-konzepte:~/d2$
```

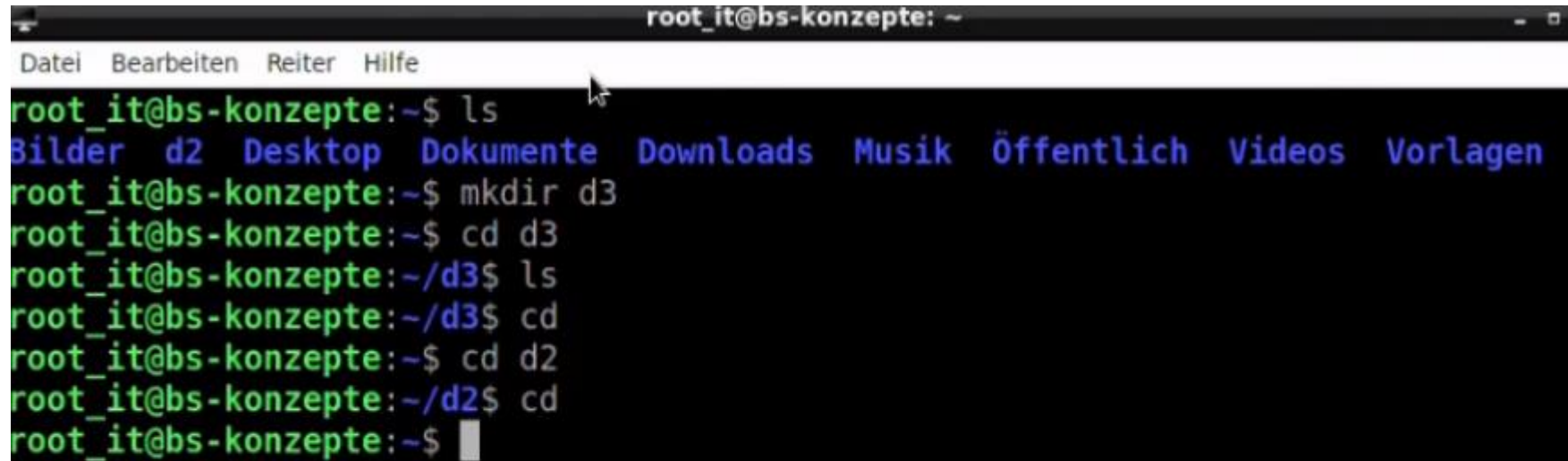


To prevent old text from deleting  
write ">>" instead on ">"

```
root_it@bs-konzepte: ~/d2
Datei Bearbeiten Reiter Hilfe
root_it@bs-konzepte:~$ ls
Bilder d2 Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen
root_it@bs-konzepte:~$ cd d2
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ lt
bash: lt: Kommando nicht gefunden.
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ touch test.txt
root_it@bs-konzepte:~/d2$ ls
test.txt
root_it@bs-konzepte:~/d2$ cat test.txt
root_it@bs-konzepte:~/d2$ echo "Test Test" > test.txt
root_it@bs-konzepte:~/d2$ cat test.txt
Test Test
root_it@bs-konzepte:~/d2$ echo "Test2 Test2" > test.txt
root_it@bs-konzepte:~/d2$ cat test.txt
Test2 Test2
root_it@bs-konzepte:~/d2$ echo "Test3 Test3" >> test.txt
root_it@bs-konzepte:~/d2$ cate test.txt
bash: cate: Kommando nicht gefunden.
root_it@bs-konzepte:~/d2$ cat test.txt
Test2 Test2
Test3 Test3
root_it@bs-konzepte:~/d2$
```

- `echo "the text" > filename.txt` : to write the sentence between double quotations into the text file
- `Cat filename.txt`: to check the content of the text file
- `echo "the text" >> filename.txt`: to write the sentence between double quotations into the text file without clear the previous text.

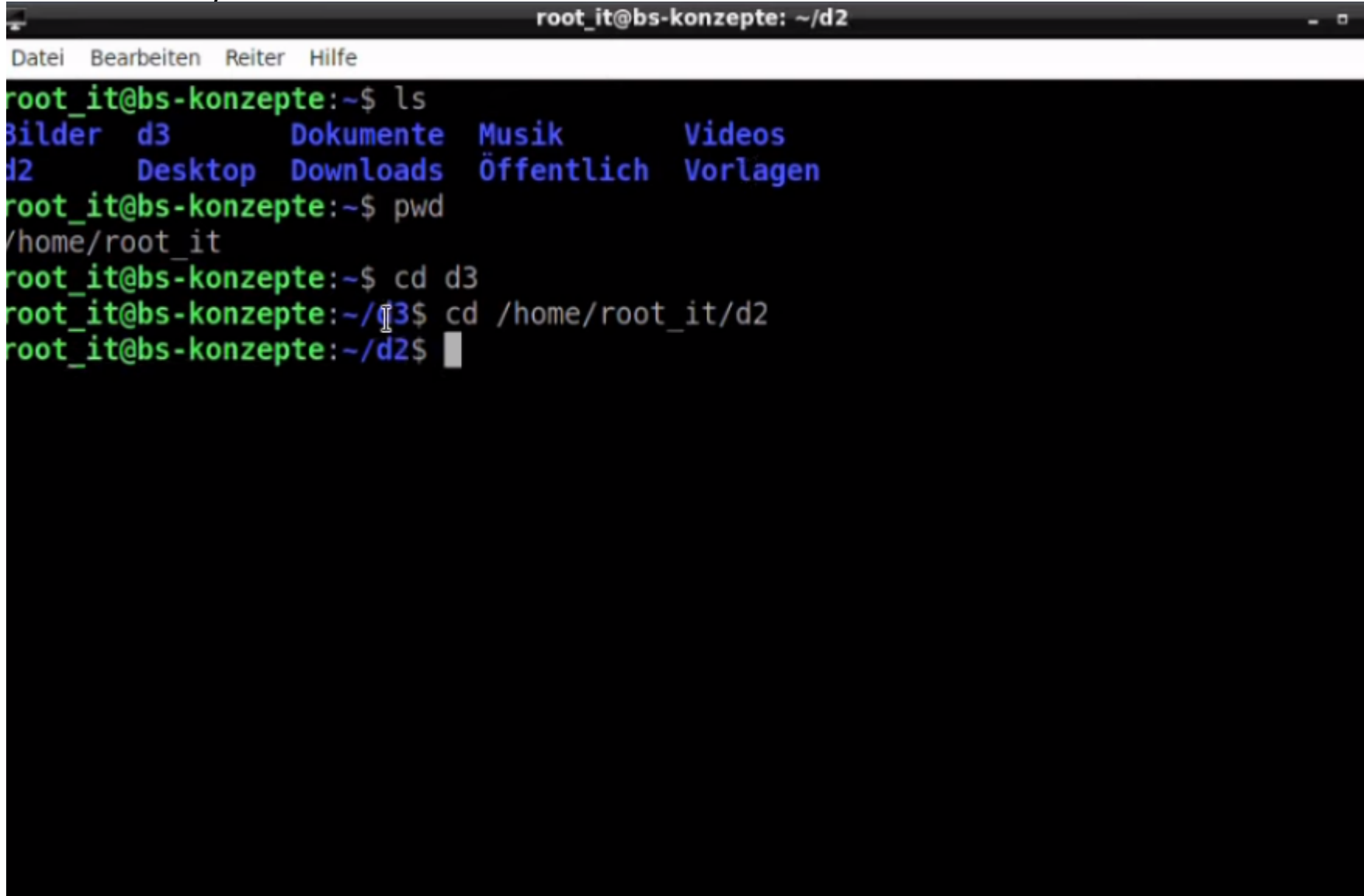
# Navigate into different folders



```
root_it@bs-konzepte: ~  
Datei Bearbeiten Reiter Hilfe  
root_it@bs-konzepte:~$ ls  
Bilder d2 Desktop Dokumente Downloads Musik Öffentlich Videos Vorlagen  
root_it@bs-konzepte:~$ mkdir d3  
root_it@bs-konzepte:~$ cd d3  
root_it@bs-konzepte:~/d3$ ls  
root_it@bs-konzepte:~/d3$ cd  
root_it@bs-konzepte:~$ cd d2  
root_it@bs-konzepte:~/d2$ cd  
root_it@bs-konzepte:~$
```

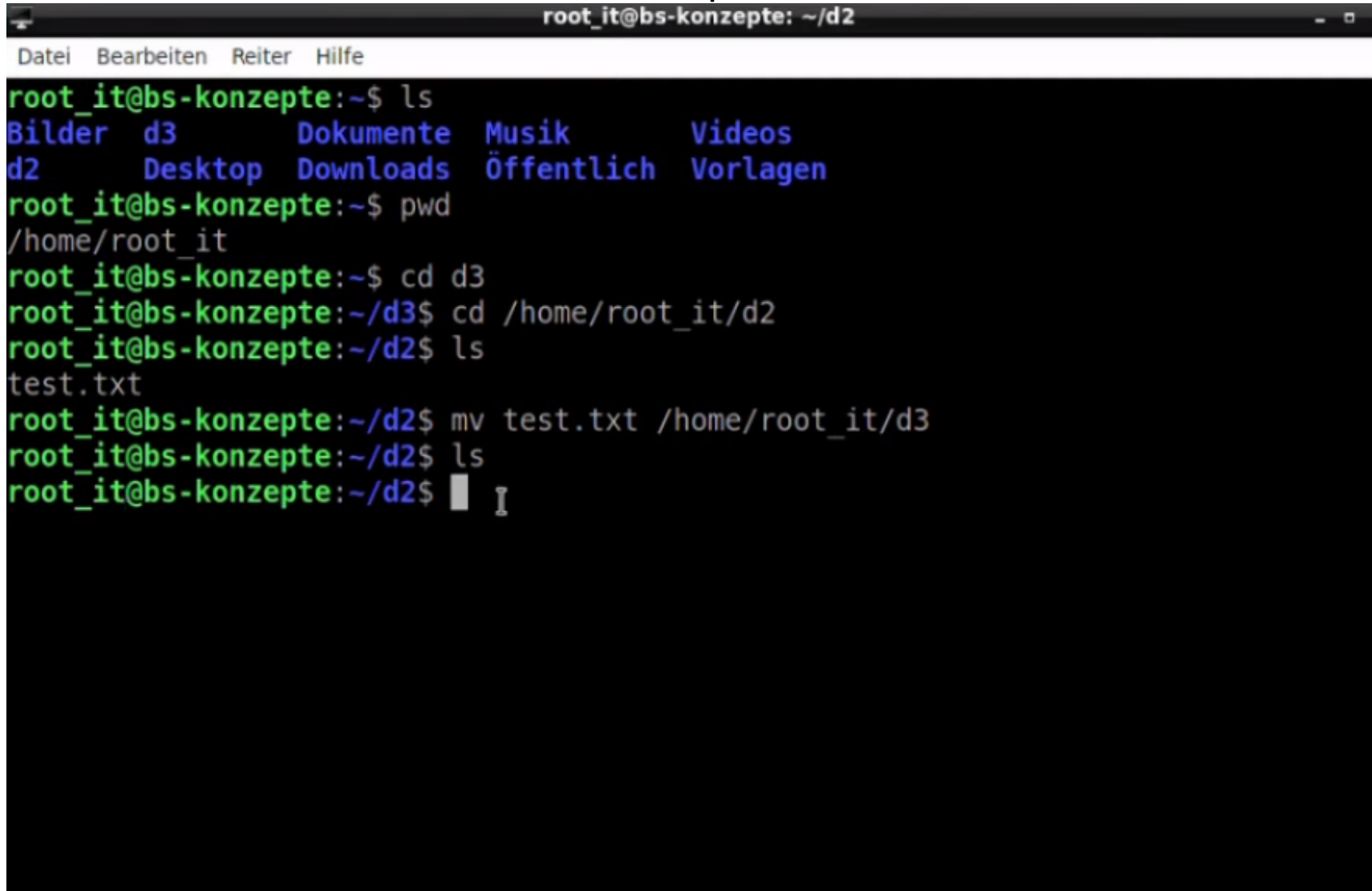
A terminal window titled "root\_it@bs-konzepte: ~" with a menu bar containing "Datei", "Bearbeiten", "Reiter", and "Hilfe". The terminal shows a sequence of commands: "ls" (listing files: Bilder, d2, Desktop, Dokumente, Downloads, Musik, Öffentlich, Videos, Vorlagen), "mkdir d3", "cd d3", "ls" (in /d3), "cd" (back to ~), "cd d2", "cd" (into /d2), and finally a prompt "root\_it@bs-konzepte:~\$".

Entire direct to certain folder if we have many folders by one command “cd /home/username/folder-name”

A terminal window titled 'root\_it@bs-konzepte: ~/d2' with a menu bar containing 'Datei', 'Bearbeiten', 'Reiter', and 'Hilfe'. The terminal shows a sequence of commands: 'ls' listing directories like 'Bilder', 'd3', 'Dokumente', 'Musik', 'Videos', 'd2', 'Desktop', 'Downloads', 'Öffentlich', and 'Vorlagen'; 'pwd' showing the current path as '/home/root\_it'; 'cd d3' changing to the 'd3' subdirectory; and 'cd /home/root\_it/d2' changing to the 'd2' subdirectory. The prompt changes from '~\$' to '~/d3\$' and finally to '~/d2\$' after the last command.

```
root_it@bs-konzepte:~$ ls
Bilder  d3      Dokumente  Musik      Videos
d2      Desktop Downloads  Öffentlich  Vorlagen
root_it@bs-konzepte:~$ pwd
/home/root_it
root_it@bs-konzepte:~$ cd d3
root_it@bs-konzepte:~/d3$ cd /home/root_it/d2
root_it@bs-konzepte:~/d2$
```

“mv filename.txt directory”  
move file from its location to new path

A terminal window titled 'root\_it@bs-konzepte: ~/d2' with a menu bar containing 'Datei', 'Bearbeiten', 'Reiter', and 'Hilfe'. The terminal shows a sequence of commands: 'ls' listing directories, 'pwd' showing the current path, 'cd d3' and 'cd /home/root\_it/d2' changing directories, 'ls' showing 'test.txt', and 'mv test.txt /home/root\_it/d3' moving the file. The prompt returns to the original directory.

```
root_it@bs-konzepte: ~/d2
Datei Bearbeiten Reiter Hilfe
root_it@bs-konzepte:~$ ls
Bilder  d3      Dokumente  Musik      Videos
d2      Desktop Downloads  Öffentlich Vorlagen
root_it@bs-konzepte:~$ pwd
/home/root_it
root_it@bs-konzepte:~$ cd d3
root_it@bs-konzepte:~/d3$ cd /home/root_it/d2
root_it@bs-konzepte:~/d2$ ls
test.txt
root_it@bs-konzepte:~/d2$ mv test.txt /home/root_it/d3
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ █ I
```



# To check

```
root_it@bs-konzepte: ~/d3
Datei Bearbeiten Reiter Hilfe
root_it@bs-konzepte:~$ ls
Bilder d3 Dokumente Musik Videos
d2 Desktop Downloads Öffentlich Vorlagen
root_it@bs-konzepte:~$ pwd
/home/root_it
root_it@bs-konzepte:~$ cd d3
root_it@bs-konzepte:~/d3$ cd /home/root_it/d2
root_it@bs-konzepte:~/d2$ ls
test.txt
root_it@bs-konzepte:~/d2$ mv test.txt /home/root_it/d3
root_it@bs-konzepte:~/d2$ ls
root_it@bs-konzepte:~/d2$ cd /home/root_it/d3
root_it@bs-konzepte:~/d3$ ls
test.txt
root_it@bs-konzepte:~/d3$
```

- “cd /home/username/folder-name”: to enter into folder directly by its path
- “mv filename.txt cd /home/username/folder-name”: to move file from its location to new path
- To check: cd new path then LS to know the content

**To create users by CLI**

# Sudo


- **is a command in Linux** that allows users to run commands with privileges that only root user have. It helps users to do tasks without log in by roots.

# Creating and Managing User Accounts

- Using useradd
- Using passwd
- Using usermod
- Using userdel

# Sudo useradd “ user name”

## Add user without make private path for personal files.

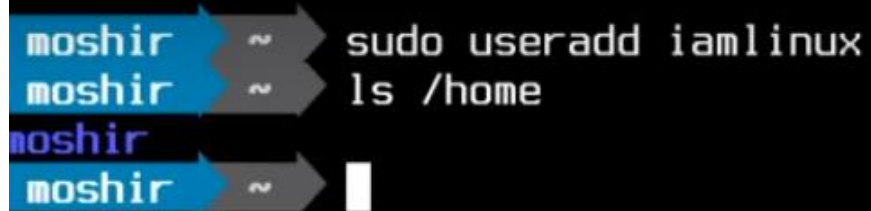
A terminal window with a black background. The prompt 'moshir' is in a blue box on the left, followed by a grey arrow pointing right containing a tilde '~'. To the right of the arrow, the command 'sudo useradd iamlinux' is typed in white text, followed by a white cursor block.

```
moshir ~ sudo useradd iamlinux
```

To check there are not files in home for new user type

“**Ls /home**”

To show the current users



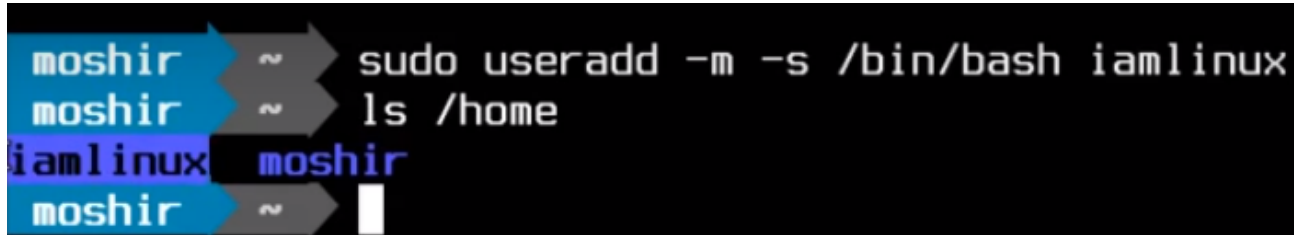
A terminal window with a black background. It shows four lines of text. The first line is a blue prompt 'moshir' followed by a grey arrow with a tilde '~' and the command 'sudo useradd iamlinux'. The second line is a blue prompt 'moshir' followed by a grey arrow with a tilde '~' and the command 'ls /home'. The third line is a blue prompt 'moshir' with no further text. The fourth line is a blue prompt 'moshir' followed by a grey arrow with a tilde '~' and a white cursor block.

```
moshir ~ sudo useradd iamlinux
moshir ~ ls /home
moshir
moshir ~
```

TO create user with files in home type

“useradd -m -s /bin/bash user name”

Then check that by ls /home



A terminal window with a black background. On the left, there are four session indicators: 'moshir' (blue), 'moshir' (blue), 'iamlinux' (purple), and 'moshir' (blue). Each indicator is followed by a grey arrow pointing right, containing a tilde '~' symbol. To the right of the arrows, the following commands are entered in white text: 'sudo useradd -m -s /bin/bash iamlinux', 'ls /home', and a blank line. The output of the 'ls /home' command is not visible.

```
moshir ~ sudo useradd -m -s /bin/bash iamlinux
moshir ~ ls /home
iamlinux moshir
moshir ~
```



# sheet

Complete the following by correct answer

- 1. command can detect the content of directory.....
- 2. command can detect the content of filename.....
- 3.To check the content of file, write .....
- 4.To create new folder write.....
- 5.By knowing the new path want to enter to it write .....
- 6.To remove directory “documents” write .....
- 7.Using command CAT to .....
- 8.Echo I Love subject LINUX > my study.txt, this command true or false (    )
- 9. To know the description of command using .....