

Bash Labs

📅 Completed Date	@Oct 19, 2020
☰ Description	
▼ Module	Unit 1
▼ Status	In Progress
⋮ Type	Lab

Introduction

We are going to practice with `bash`, a shell and command-line language!

Setup

1. Download the folder to your machine and navigate to it folder.
2. Run the following command `ls` and you should see:

exercises inputs lorem lorem-copy modules outputs README.md

```
bash-3.2$ ls
exercises  inputs    lorem     lorem-copy  outputs    readme.md
```

3. Try to do the following exercises without changing the directory.



exec bash: start bash

pwd: where I am

cd: change directory

Exercises

1. Print in console "Hello World". → `echo "Hello World"`

```
bash-3.2$ echo "Hello World"
Hello World
```

2. Create a directory called *new_dir*. → `mkdir`

```
bash-3.2$ mkdir new_dir
bash-3.2$ ls
exercices      lorem          new_dir        readme.md
inputs         lorem-copy     outputs
```

3. Remove that directory. → `rmdir`

```
bash-3.2$ rmdir new_dir
bash-3.2$ ls
exercices  inputs      lorem          lorem-copy     outputs        readme.md
```

4. Copy the file *sed.txt* from the *lorem* folder to *lorem-copy* folder.

→ `cd folder-where-the-file-is`

→ `cp file new folder`

OR `cp lorem/sed.txt lorem-copy/sed1.txt`

```
bash-3.2$ cd lorem
bash-3.2$ cp sed.txt lorem-copy
bash-3.2$ cd Downloads/lab-bash-master
```

5. Copy the other two files from the *lorem* folder to *lorem-copy* folder in just one line with the pipe `;`.

`cp lorem/at.txt lorem-copy/ ; cp lorem/lorem.txt lorem-copy/`

```
bash-3.2$ cp at.txt lorem.txt lorem-copy
usage: cp [-R [-H | -L | -P]] [-fi | -n] [-apvXc] source_file target_file
        cp [-R [-H | -L | -P]] [-fi | -n] [-apvXc] source_file ... target_directory
```

```
bash: cd: Downloads: No such file or directory
bash-3.2$ cd /Users/riyavasileva/Downloads/lab-bash-master
bash-3.2$ cd lorem-copy
bash-3.2$ ls
at.txt          lorem.txt      sed.txt
```

6. Show the `sed.txt` file content from the `lorem` folder. → `cat file`

```
bash-3.2$ cat sed.txt
Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium,
totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta
sunt explicabo.
Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit,
sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt.
Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit,
sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam aliquam quaerat voluptate
m.
Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam,
nisi ut aliquid ex ea commodi consequatur? Quis autem vel eum iure reprehenderit qui in ea voluptate
velit esse quam nihil molestiae consequatur,
vel illum qui dolorem eum fugiat quo voluptas nulla pariatur?Homo homini lupus
```

7. Show the `at.txt` file and `lorem.txt` file contents from `lorem` folder.

```

bash-3.2$ cat at.txt
At vero eos ET accusamus ET iusto odio dignissimos ducimus qui blanditiis praesentium voluptatum
deleniti atque corrupti quos dolores ET quas molestias excepturi sint occaecati cupiditate non
provident, similique sunt in culpa qui officia deserunt mollitia animi, id est laborum ET dolorum fu
ga.
Et harum quidem rerum facilis est ET expedita distinctio.
Nam libero tempore, cum soluta nobis est eligendi optio cumque nihil impedit quo minus id quod
maxime placeat facere possimus, omnis voluptas assumenda est, omnis dolor repellendus.
Temporibus autem quibusdam ET aut officiis debitis aut rerum necessitatibus saepe eveniET
ut ET voluptates repudiandae sint ET molestiae non recusandae.
Itaque earum rerum hic tenETur a sapiente delectus, ut aut reiciendis voluptatibus maiores
alias consequatur aut perferendis doloribus asperiores repellat
bash-3.2$ cat lorem.txt
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore
et dolore magna aliqua.
Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo con
sequat.
Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatu
r.
Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id es
t laborum.bash-3.2$ █

```



'head' command is used to read the file from the beginning and 'tail' command is used to read the file from the ending.

8. Print the first 3 rows in sed.txt file from lorem-copy folder. → `sed -n '1,3'p sed.txt` (more to read [here](#)) → `head -3 lorem-copy/sed.txt`

```

bash-3.2$ head -3 lorem-copy/sed.txt
Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium dolor
emque laudantium,
totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architec
to beatae vitae dicta sunt explicabo.
Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit,

```

```

bash-3.2$ sed -n '1,3'p sed.txt
Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium,
totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dict
a sunt explicabo.
Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit,

```

9. Print the last 3 rows in `sed.txt` file from lorem-copy folder.sed → `tail -3 lorem-copy/sed.txt`

```
bash-3.2$ sed -n '7,$p' sed.txt
Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam,
nisi ut aliquid ex ea commodi consequatur? Quis autem vel eum iure reprehenderit qui in ea voluptate
velit esse quam nihil molestiae consequatur,
vel illum qui dolorem eum fugiat quo voluptas nulla pariatur?
```

10. Add *Homo homini lupus.* at the end of *sed.txt* file from *lorem-copy* folder. →

```
echo "text" >> file
```

```
bash-3.2$ echo "Homo homini lupus.">> sed.txt
bash-3.2$ cat sed.txt
Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium,
totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta
sunt explicabo.
Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit,
sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt.
Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit,
sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam aliquam quaerat voluptate
m.
Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam,
nisi ut aliquid ex ea commodi consequatur? Quis autem vel eum iure reprehenderit qui in ea voluptate
velit esse quam nihil molestiae consequatur,
vel illum qui dolorem eum fugiat quo voluptas nulla pariatur?Homo homini lupus.
```

11. Print the last 3 rows in *sed.txt* file from *lorem-copy* folder. You should see *Homo homini lupus.* → `sed -n '7, $p' sed.txt`

```
bash-3.2$ sed -n '7,$p' sed.txt
Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam,
nisi ut aliquid ex ea commodi consequatur? Quis autem vel eum iure reprehenderit qui in ea voluptate
velit esse quam nihil molestiae consequatur,
vel illum qui dolorem eum fugiat quo voluptas nulla pariatur?Homo homini lupus.
```

12. Replace all *et* repetitions by *ET* in *at.txt* file from *lorem* folder to *lorem-copy* folder. Look the *sed* command. → `sed 's/old-text/new-text/g' file` → `sed -i 's/et/ET/g' lorem-copy/at.txt`

```
bash-3.2$ sed 's/et/ET/g' sed.txt
Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium,
totam rem aperiam, eaque ipsa quae ab illo inventore veritatis ET quasi architecto beatae vitae dicta
sunt explicabo.
Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit,
sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt.
Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit,
sed quia non numquam eius modi tempora incidunt ut labore ET dolore magnam aliquam quaerat voluptate
m.
Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam,
nisi ut aliquid ex ea commodi consequatur? Quis autem vel eum iure reprehenderit qui in ea voluptate
velit esse quam nihil molestiae consequatur,
vel illum qui dolorem eum fugiat quo voluptas nulla pariatur?Homo homini lupus.
```

13. Find who is the system user. → `whoami`

```
bash-3.2$ whoami
riyavasileva
```

14. Find which is your actual path.

```
bash-3.2$ pwd
/Users/riyavasileva/Downloads/lab-bash-master/lorem-copy
```

15. List all files with the extension .txt in lorem folder. → `ls *.txt` (more info [here](#))

```
bash-3.2$ ls *.txt
at.txt      lorem.txt      sed.txt
```

16. Count the rows in sed.txt file from lorem folder. Look concatenate cat and wc with the pipe |. → `wc -l sed.txt` OR `cat file | wc -l`

```
bash-3.2$ wc -l sed.txt
9 sed.txt
```

```
bash-3.2$ cat sed.txt | wc -l
9
```

17. Count the **files** start with `lorem` in all directories. → `ls -f *lorem | wc -l`

```
bash-3.2$ ls -f *lorem | wc -l
7
```

18. Count how many times `et` appears in `at.txt` from `lorem` folder. → `ls -f *word | wc -l`

```
bash-3.2$ ls -f *lorem | wc -l
7
```

19. Count how many times `et` appears in `at.txt` from `lorem-copy` folder.

```
bash-3.2$ grep -o -i et at.txt | wc -l
11
```

Bonus

1. Store your `name` in a variable with `read` command.

```
bash-3.2$ name="Riya"
```

2. Print that variable.

```
bash-3.2$ echo $name
Riya
```

3. Create a new directory named with variable `name`.
4. Remove that directory.

```
bash-3.2$ mkdir name
bash-3.2$ ls
exercices      lorem          name            readme.md
inputs         lorem-copy     outputs
bash-3.2$ rmdir name
bash-3.2$ ls
exercices      inputs         lorem           lorem-copy     outputs         readme.md
```

5. For each file in `lorem` folder, print the number of characters of its name.