

Shell exercises

Ex00

Write a shell command that prints "Hello World!" on the screen:

```
echo "Hello World!"
```

Ex01

Do the same but with variables:

```
NAME="Shell Scripting is Fun!"  
echo $NAME
```

Ex02

Write a multi-line message using newlines and tabs:

```
echo "This is Exercise-1.\n\tThis is Exercise-2.\n\t\tThis is E
```

Ex03

Write `pwd` and see what happens:

```
pwd
```

Ex04

Explore the command `cd`.

Try `cd .`, `cd ..`, `cd ~`, `cd some_subfolder`.

After each command use `pwd` to check what is your current working directory.

Ex05

Create a folder called `ex00`. Inside create a `.txt` file called `z1.txt`. Write `z` in it.

Use the command `cat z1.txt` to display the file's content.

In the same folder create a file called `a` and paste the following text:

STARWARS

Episode IV, A NEW HOPE

It is a period of civil war.

Rebel spaceships, striking from a hidden base, have won their first victory against the evil Galactic Empire. During the battle, Rebel spies managed to steal secret plans to the Empire's ultimate weapon, the Death Star, an armored space station with enough power to destroy an entire planet.

Pursued by the Empire's sinister agents, Princess Leia races home to her planet to warn the Rebel Alliance.

Cat the created file:

```
cat a
```

Ex06

Create an empty file called `testtouch.txt`:

```
touch testtouch.txt
```

Now check the content of the file using the `cat` command.

Ex07

List the files in a folder using `ls -l`:

```
ls -l #all files
ls -l filename #for a specific file
```

Do this inside different folders (use the command `cd` to navigate!).

Ex08

Open the `testtouch.txt` file, write something and save.

Re-run the command

```
touch testtouch.txt
```

And use `cat` to check if the file was overwritten or not.

Check the timestamp of the file.

Ex09

Now do everything from exercise Ex04 using **only** terminal commands.

Call the files `z2.txt` and `b`, respectively.

```
echo "Z" > z2.txt #overwrites
touch b.txt
```

You can edit `b` (that is empty) in visual studio code.

Paste the Starwars text from Ex04 and save.

Check it using `cat`.

Ex10

Check the differences (with the command `diff`) between all pairs of the files `z1.txt`, `z2.txt`, `a`, and `b`. (The number of combinations is $\frac{4!}{2!(4-2)!} = 6$.)

```
diff a b
# Do the same for all 6 pairs of files
```

And if you write these commands?

```
diff a b > sw1.diff
diff a z1.txt > sw2.diff
```

Use `ls` to check if new files appeared.

Use `cat` to see what's inside them.

Ex11

Explore the `find` command to check for specific files in a directory and sub-directories. Files starting or ending with something, for example.

```
find . -type f -name "z*"
# find how to do the same with the end of a file name
```

Ex12

Use the command `rm` to delete files:

```
rm z1.txt
```

Ex13

Use the command `wc -l` to count the number of lines of a file, for example `circle.py`.

Ex14

Write a command that counts the number of files in a directory:

```
find . | wc -l
```

Ex15

Write the command from the previous exercise in a `.sh` file and execute it:

```
./find_sh.sh # You need to create the file `find_sh.sh` yourself
```

Ex16

Write a `.sh` file called `input.sh`. In the file `input.sh` write:

```
# Prompt the user to enter their name
echo "Input your name:"
# Read user input and store it in a variable named 'name'
read name
# Greet the user with their name
echo "Hello, $name!"
```

Execute the file.

Ex17

Write a `.sh` file that displays the current date and time using the `date` command

```
touch currentdate.sh

#Using command substitution to get the current date and time
current_datetime=$(date)

#Displaying the current date and time
echo "Current date and time: $current_datetime"
```

Ex18

Write a command that uses `cat` to concatenate the contents of 2 files:

```
cat file1 file2
```

If you want to save the output in a file, how would you do it?

Ex19

Create a file containing only the number `2024` and NOTHING else.

The name of the file could be

```
"\?$ 'AbUdHaBi_SuMmErCaMp' $\?".
```