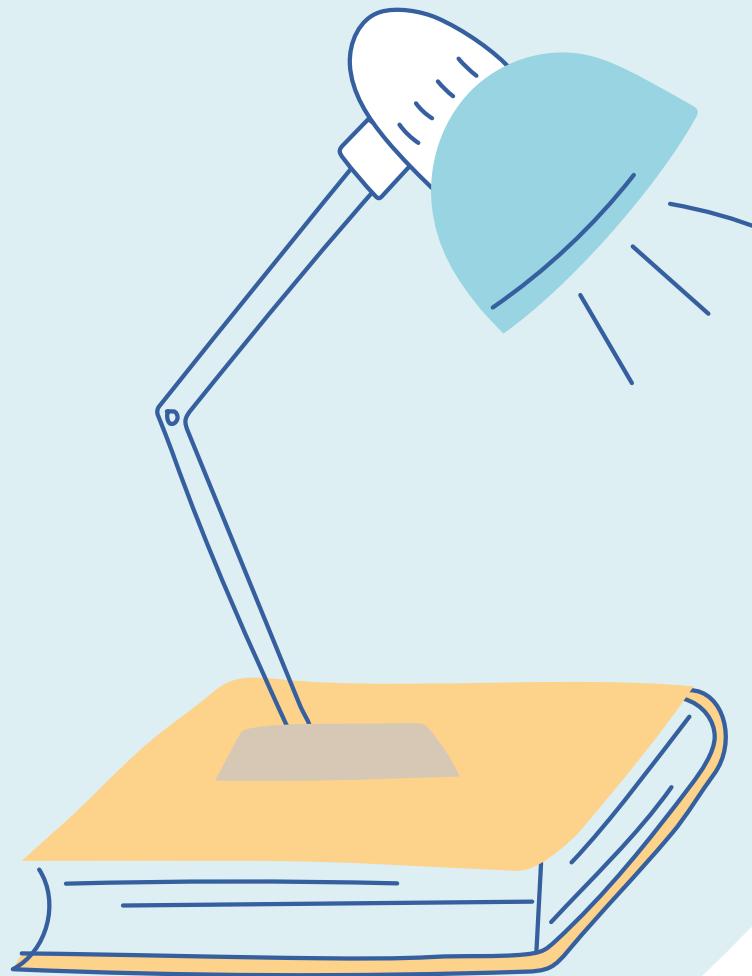


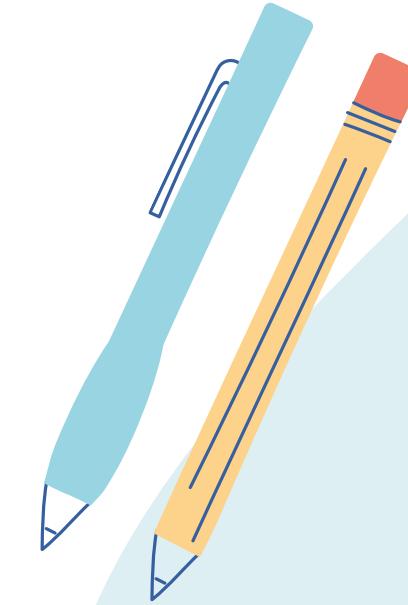
# Assignment *Lab08-OS*

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# Overview

- Task 1: Create scripts
- Task 2: Create scripts more advanced
- Task 3: Create a command
- Task 4: Write prompting shell script
- Task 5: Modify previous script
- Task 6: Write a script to compare 2 numbers
- Task 7: Write a script to check file

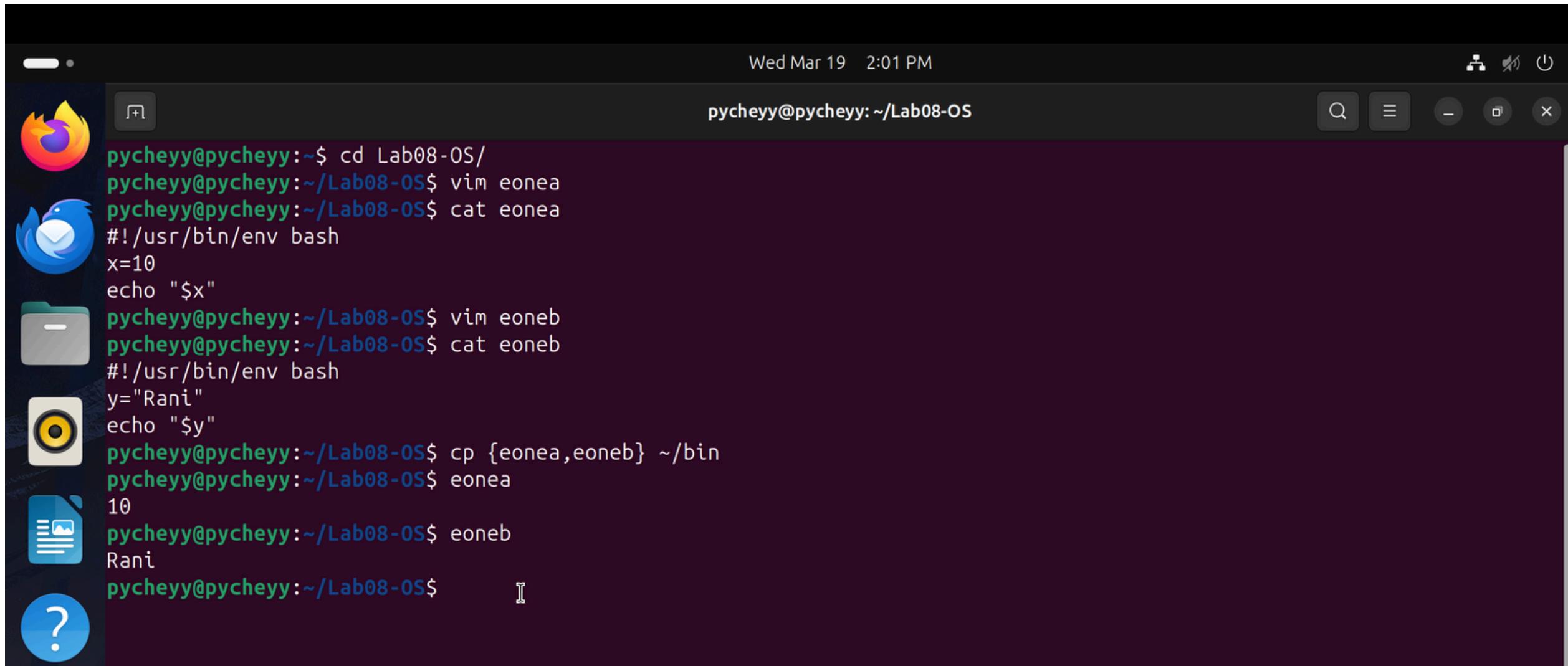


# Task 1

1. Create script(s) as following:
  - a. Script “**eonea**” which prints the defined var. “**x**” with value **10**.
  - b. Script “**eoneb**” which prints the defined var. “**y**” with value “**Rani**”.
  - c. Run your scripts and take a screenshot.



# Answer



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window has a dark background and contains the following command-line session:

```
pycheyy@pycheyy:~/Lab08-OS$ cd Lab08-OS/
pycheyy@pycheyy:~/Lab08-OS$ vim eonea
pycheyy@pycheyy:~/Lab08-OS$ cat eonea
#!/usr/bin/env bash
x=10
echo "$x"
pycheyy@pycheyy:~/Lab08-OS$ vim eoneb
pycheyy@pycheyy:~/Lab08-OS$ cat eoneb
#!/usr/bin/env bash
y="Rani"
echo "$y"
pycheyy@pycheyy:~/Lab08-OS$ cp {eonea,eoneb} ~/bin
pycheyy@pycheyy:~/Lab08-OS$ eonea
10
pycheyy@pycheyy:~/Lab08-OS$ eoneb
Rani
pycheyy@pycheyy:~/Lab08-OS$
```

The desktop interface includes a dock with icons for various applications like a browser, email, file manager, terminal, and help.

# Task 2

2. Create script(s) as following:
  - a. Script "**etwoa**" which prints the sum of two integers of var. "a" & "b"; e.g. 3 & 5.
  - b. Script "**etwob**" which prints the division of two integers of var. "a" & "b"; e.g. 20 & 5.
  - c. Script "**etwoc**" which prints the sum of two real number of var. "a" & "b"; e.g. 1.2 & 2.3.
  - d. Script "**etwod**" which prints the division of two real number of var. "a" & "b"; e.g. 2 & 3.



# Content of scripts

```
pycheyy@pycheyy:~/Lab08-OS$ cp etwo? ~/bin
pycheyy@pycheyy:~/Lab08-OS$ cat etwoa
#!/usr/bin/env bash
a=3
b=5
echo $((a+b))
pycheyy@pycheyy:~/Lab08-OS$ cat etwob
#!/usr/bin/env bash
a=20
b=5
echo $((a/b))
pycheyy@pycheyy:~/Lab08-OS$ cat etwoc
#!/usr/bin/env bash
a=1.2
b=2.3
echo "$a+$b" | bc
pycheyy@pycheyy:~/Lab08-OS$ cat etwod
#!/usr/bin/env bash
a=2
b=3
echo "scale=2; $a/$b" | bc
```

# *Running scripts*

```
pycheyy@pycheyy:~/Lab08-OS$ etwoa
8
pycheyy@pycheyy:~/Lab08-OS$ etwob
4
pycheyy@pycheyy:~/Lab08-OS$ etwoc
3.5
pycheyy@pycheyy:~/Lab08-OS$ etwod
.66
pycheyy@pycheyy:~/Lab08-OS$ █
```

# Task 3

3. Create a command `mycal augment` which accepts any of the augments such as “**2-4**” or “**4+2**” or “**7/8**” or “**3\*7**” and then take a screenshot of all cases.



# Answer

```
pycheyy@pycheyy:~/Lab08-0S$ cat mycal
#!/usr/bin/env bash
argument="$@"
echo "scale=2; $argument" | bc
pycheyy@pycheyy:~/Lab08-0S$ cp mycal ~/bin
pycheyy@pycheyy:~/Lab08-0S$ mycal 2-4
-2
pycheyy@pycheyy:~/Lab08-0S$ mycal 4+2
6
pycheyy@pycheyy:~/Lab08-0S$ mycal 7/8
.87
pycheyy@pycheyy:~/Lab08-0S$ mycal 3*7
21
pycheyy@pycheyy:~/Lab08-0S$ █
```

# Task 4

4. Write a shell script that prompts the user for a name of a file or directory and reports if it is a regular file, a directory, or another type of file. (Using if else)



# Answer

```
pycheyy@pycheyy:~/Lab08-05$ cat promptToCheckFileType
#!/usr/bin/env bash
echo "Enter name of file or directory: "
read filename

if [ -e "$filename" ]; then
    if [ -f "$filename" ]; then
        echo "it is a file"
    elif [ -d "$filename" ]; then
        echo "it is a directory"
    else
        echo "not file or directory but exists"
    fi
else
    echo "file does not exist"
fi
```

# Answer

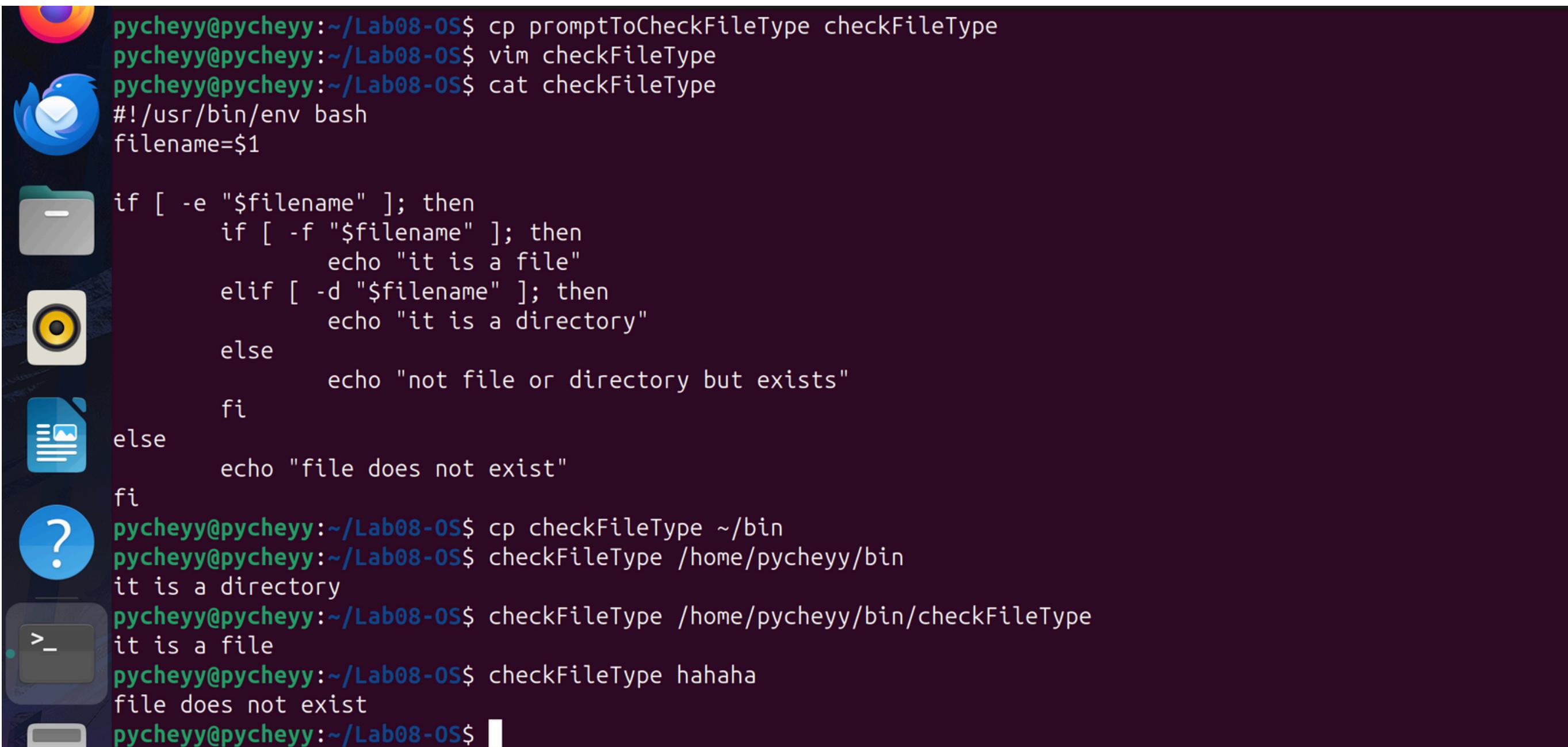
```
pycheyy@pycheyy:~/Lab08-0$ cp promptToCheckFileType ~/bin  
pycheyy@pycheyy:~/Lab08-0$ promptToCheckFileType  
Enter name of file or directory:  
/home/pycheyy  
it is a directory  
pycheyy@pycheyy:~/Lab08-0$ promptToCheckFileType  
Enter name of file or directory:  
/home/pycheyy/bin/promptToCheckFileType  
it is a file  
pycheyy@pycheyy:~/Lab08-0$ promptToCheckFileType  
Enter name of file or directory:  
hahahahaha  
file does not exist
```

# Task 5

5. Modify the previous script to that it accepts the file or directory name as an argument instead of prompting the user to enter it.



# Answer



```
pycheyy@pycheyy:~/Lab08-OS$ cp promptToCheckFileType checkFileType
pycheyy@pycheyy:~/Lab08-OS$ vim checkFileType
pycheyy@pycheyy:~/Lab08-OS$ cat checkFileType
#!/usr/bin/env bash
filename=$1

if [ -e "$filename" ]; then
    if [ -f "$filename" ]; then
        echo "it is a file"
    elif [ -d "$filename" ]; then
        echo "it is a directory"
    else
        echo "not file or directory but exists"
    fi
else
    echo "file does not exist"
fi
pycheyy@pycheyy:~/Lab08-OS$ cp checkFileType ~/bin
pycheyy@pycheyy:~/Lab08-OS$ checkFileType /home/pycheyy/bin
it is a directory
pycheyy@pycheyy:~/Lab08-OS$ checkFileType /home/pycheyy/bin/checkFileType
it is a file
pycheyy@pycheyy:~/Lab08-OS$ checkFileType hahaha
file does not exist
pycheyy@pycheyy:~/Lab08-OS$
```

# Task 6

6. Write a shell script that compare two numbers that are accepted as arguments.



# Answer

```
pycheyy@pycheyy:~/Lab08-OS$ cat compareNumber
#!/usr/bin/env bash
num1=$1
num2=$2

if [ "$num1" -gt "$num2" ]; then
    echo "$num1 is greater"
elif [ "$num2" -gt "$num1" ]; then
    echo "$num2 is greater"
else
    echo "both numbers are equal"
fi

pycheyy@pycheyy:~/Lab08-OS$ cp compareNumber ~/bin
pycheyy@pycheyy:~/Lab08-OS$ compareNumber 10 12
12 is greater
pycheyy@pycheyy:~/Lab08-OS$ compareNumber 10 8
10 is greater
pycheyy@pycheyy:~/Lab08-OS$ compareNumber 10 10
both numbers are equal
pycheyy@pycheyy:~/Lab08-OS$ █
```

# Task 7

7. Write a shell script to check to see if the file “file\_path” exists. If it does exist, display “file\_path passwords are enabled.” Next, check to see if you can write to the file. If you can, display “You have permissions to edit “file\_path.”” If you cannot, display “You do NOT have permissions to edit “file\_path””



# Answer

```
pycheyy@pycheyy:~/Lab08-OS$ cat isFileWritable
#!/usr/bin/env bash
filepath="$1"

if [ -e "$filepath" ]; then
    echo "$filepath passwords are enabled"
    if [ -w "$filepath" ]; then
        echo "you have the permission to edit the $filepath"
    else
        echo "you do NOT have the permission to edit the $filepath"
    fi
else
    echo "file does not exist"
fi
```

# Answer

```
pycheyy@pycheyy:~/Lab08-OS$ cp isFileWritable ~/bin
pycheyy@pycheyy:~/Lab08-OS$ ls -l ~/testWritePermission/
total 0
-r--r--r-- 1 pycheyy pycheyy 0 Mar 19 19:32 unwritable
-rw-rw-r-- 1 pycheyy pycheyy 0 Mar 19 19:32 writable
pycheyy@pycheyy:~/Lab08-OS$ isFileWritable /home/pycheyy/testWritePermission/unwritable
/home/pycheyy/testWritePermission/unwritable passwords are enabled
you do NOT have the permission to edit the /home/pycheyy/testWritePermission/unwritable
pycheyy@pycheyy:~/Lab08-OS$ isFileWritable /home/pycheyy/testWritePermission/writable
/home/pycheyy/testWritePermission/writable passwords are enabled
you have the permission to edit the /home/pycheyy/testWritePermission/writable
pycheyy@pycheyy:~/Lab08-OS$ isFileWritable hahaha
file does not exist
pycheyy@pycheyy:~/Lab08-OS$ █
```



# Thank you



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# Resources

