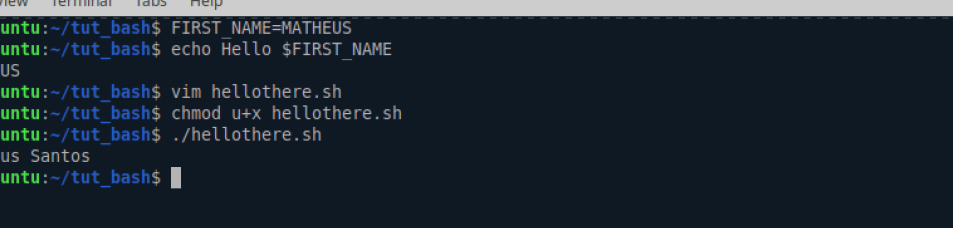


### EXERCÍCIO 3

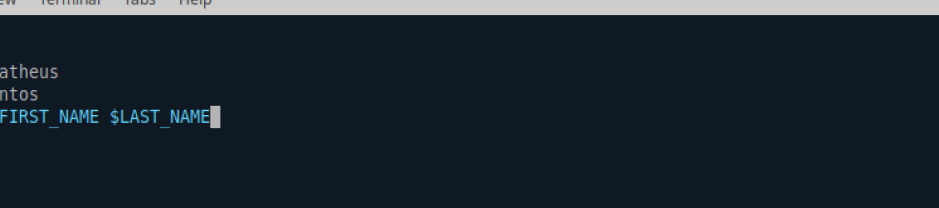
- Variables



The screenshot shows a terminal window titled "Terminal - matheus@xubuntu: ~/tut\_bash". The window has a menu bar with "File", "Edit", "View", "Terminal", "Tabs", and "Help". The terminal content shows a user named "matheus@xubuntu" in the directory "~/tut\_bash" executing a series of commands: setting the environment variable "FIRST\_NAME=MATHEUS", using "echo" to display "Hello \$FIRST\_NAME" (resulting in "Hello MATHEUS"), using "vim" to edit "hellothere.sh", using "chmod u+x" to make it executable, and finally running the script with "./hellothere.sh", which outputs "Hello Matheus Santos". The prompt "matheus@xubuntu:~/tut\_bash\$" is visible at the end of the last line.

```
matheus@xubuntu:~/tut_bash$ FIRST_NAME=MATHEUS
matheus@xubuntu:~/tut_bash$ echo Hello $FIRST_NAME
Hello MATHEUS
matheus@xubuntu:~/tut_bash$ vim hellothere.sh
matheus@xubuntu:~/tut_bash$ chmod u+x hellothere.sh
matheus@xubuntu:~/tut_bash$ ./hellothere.sh
Hello Matheus Santos
matheus@xubuntu:~/tut_bash$
```

(janela de comando do “vim”)



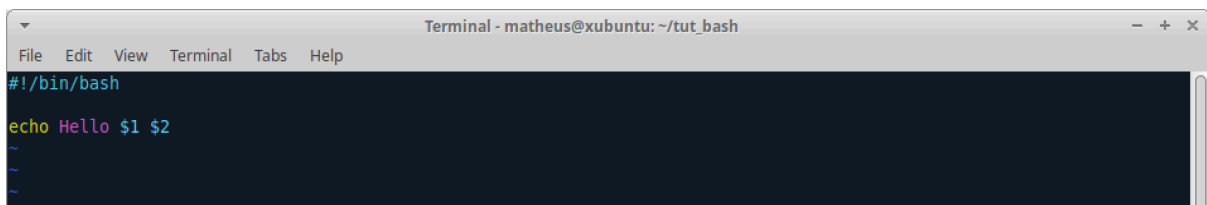
The screenshot shows a terminal window titled "Terminal - matheus@xubuntu: ~/tut\_bash". The terminal has a dark background with light blue text. The prompt is "#!/bin/bash". The first two lines of code are "FIRST\_NAME=Matheus" and "LAST\_NAME=Santos". The third line is "echo Hello \$FIRST\_NAME \$LAST\_NAME", which has been executed, resulting in the output "Hello Matheus Santos" on the next line. The terminal status bar at the bottom shows "-- INSERT --" on the left, "5.34" in the center, and "All" on the right.

```
#!/bin/bash

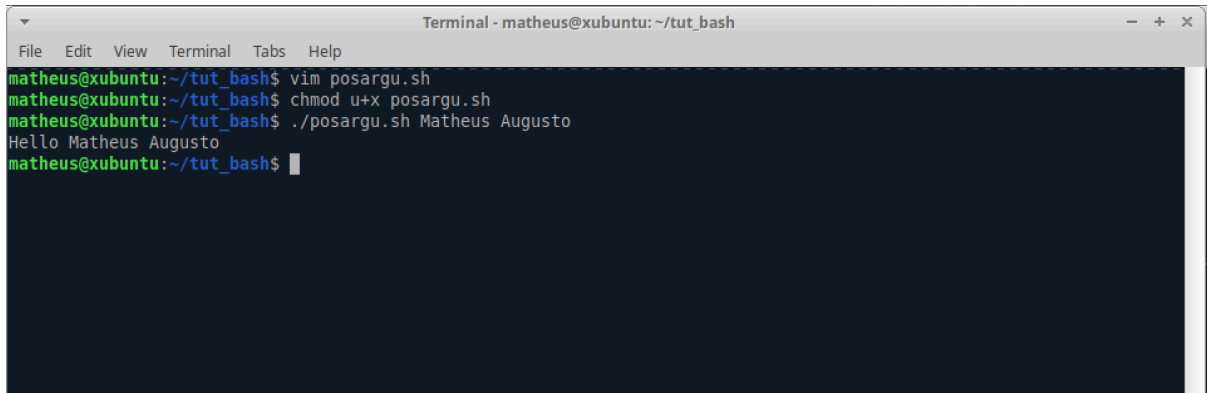
FIRST_NAME=Matheus
LAST_NAME=Santos
echo Hello $FIRST_NAME $LAST_NAME
```

-- INSERT -- 5.34 All

- Positional arguments:

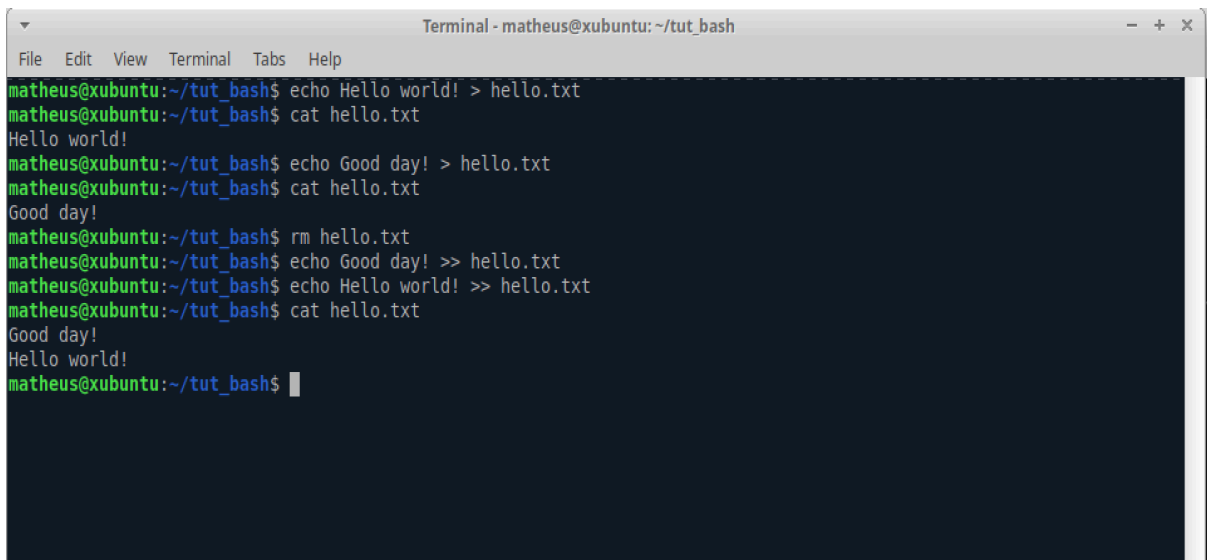


```
Terminal - matheus@xubuntu: ~/tut_bash
File Edit View Terminal Tabs Help
#!/bin/bash
echo Hello $1 $2
~
~
~
```



```
Terminal - matheus@xubuntu: ~/tut_bash
File Edit View Terminal Tabs Help
matheus@xubuntu:~/tut_bash$ vim posargu.sh
matheus@xubuntu:~/tut_bash$ chmod u+x posargu.sh
matheus@xubuntu:~/tut_bash$ ./posargu.sh Matheus Augusto
Hello Matheus Augusto
matheus@xubuntu:~/tut_bash$
```

- Output/Input redirection:



```
Terminal - matheus@xubuntu: ~/tut_bash
File Edit View Terminal Tabs Help
matheus@xubuntu:~/tut_bash$ echo Hello world! > hello.txt
matheus@xubuntu:~/tut_bash$ cat hello.txt
Hello world!
matheus@xubuntu:~/tut_bash$ echo Good day! > hello.txt
matheus@xubuntu:~/tut_bash$ cat hello.txt
Good day!
matheus@xubuntu:~/tut_bash$ rm hello.txt
matheus@xubuntu:~/tut_bash$ echo Good day! >> hello.txt
matheus@xubuntu:~/tut_bash$ echo Hello world! >> hello.txt
matheus@xubuntu:~/tut_bash$ cat hello.txt
Good day!
Hello world!
matheus@xubuntu:~/tut_bash$
```

```
Terminal - matheus@xubuntu: ~/tut_bash
File Edit View Terminal Tabs Help
matheus@xubuntu:~/tut_bash$ wc -w hello.txt
4 hello.txt
matheus@xubuntu:~/tut_bash$ cat << ABC
> Vou escrever
> um tanto
> de texto
> aqui
> ABC
Vou escrever
um tanto
de texto
aqui
matheus@xubuntu:~/tut_bash$
```

- Test operators:

```
Terminal - matheus@xubuntu: ~/tut_bash
File Edit View Terminal Tabs Help
matheus@xubuntu:~/tut_bash$ [ hello = hello ]
matheus@xubuntu:~/tut_bash$ echo $?
0
matheus@xubuntu:~/tut_bash$ [ 1 = 0 ]
matheus@xubuntu:~/tut_bash$ echo $?
1
matheus@xubuntu:~/tut_bash$ [ 1 -eq 1 ]
matheus@xubuntu:~/tut_bash$ echo $?
0
matheus@xubuntu:~/tut_bash$
```

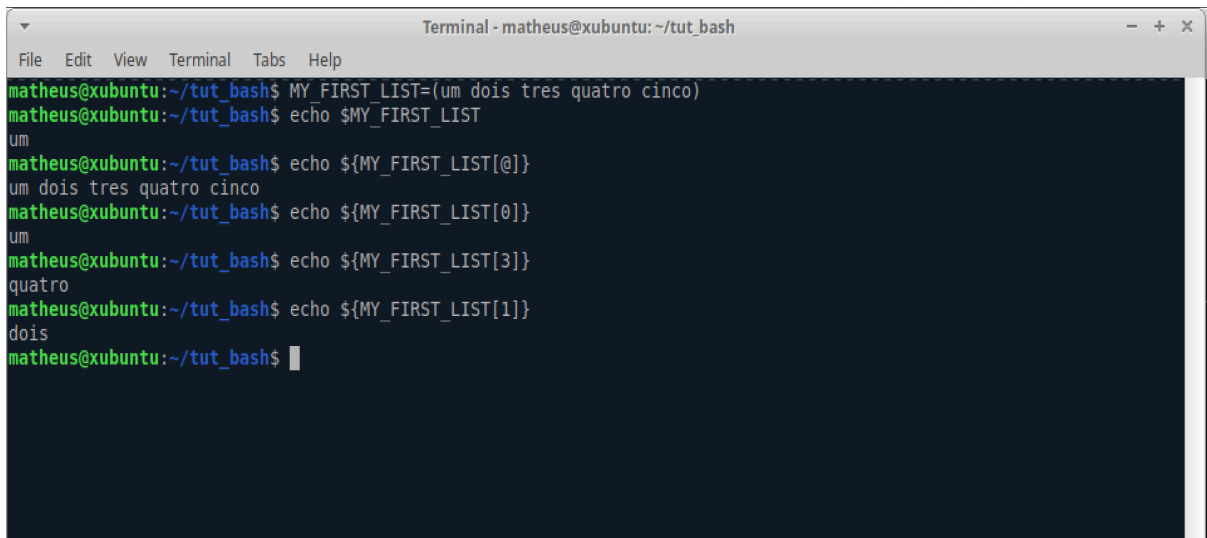
- Case statements:

```
Terminal - matheus@xubuntu: ~/tut_bash
File Edit View Terminal Tabs Help
#!/bin/bash

case ${1,,} in
    matheus | administrator)
        echo "Hello, you are the boss!"
        ;;
    help)
        echo "Enter your username!"
        ;;
    *)
        echo "You're not the boss.. Enter a valid username"
esac
```

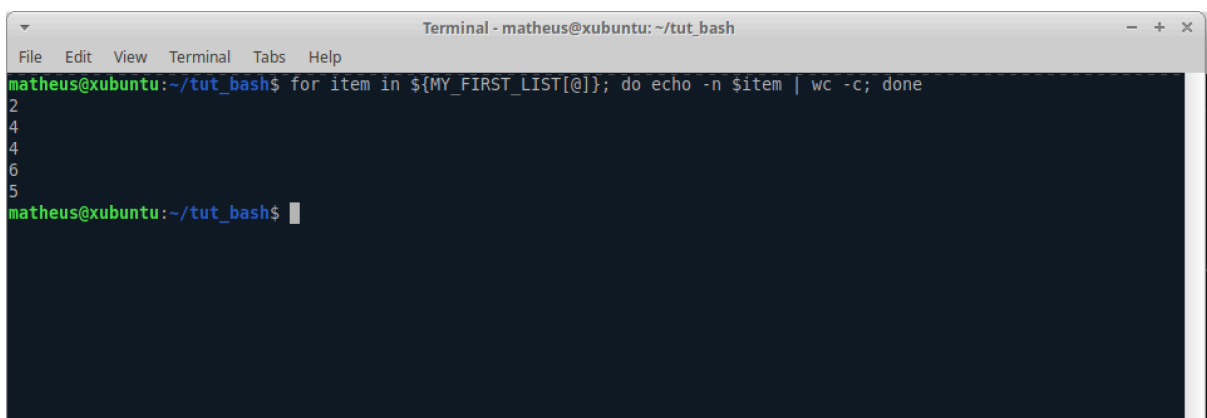
```
Terminal - matheus@xubuntu: ~/tut_bash
File Edit View Terminal Tabs Help
matheus@xubuntu:~/tut_bash$ vim login.sh
matheus@xubuntu:~/tut_bash$ chmod u+x login.sh
matheus@xubuntu:~/tut_bash$ ./login.sh matheus
Hello, you are the boss!
matheus@xubuntu:~/tut_bash$ ./login.sh help
Enter your username!
matheus@xubuntu:~/tut_bash$ ./login.sh user
You're not the boss.. Enter a valid username
matheus@xubuntu:~/tut_bash$ ./login.sh administrator
Hello, you are the boss!
matheus@xubuntu:~/tut_bash$
```

- Arrays:



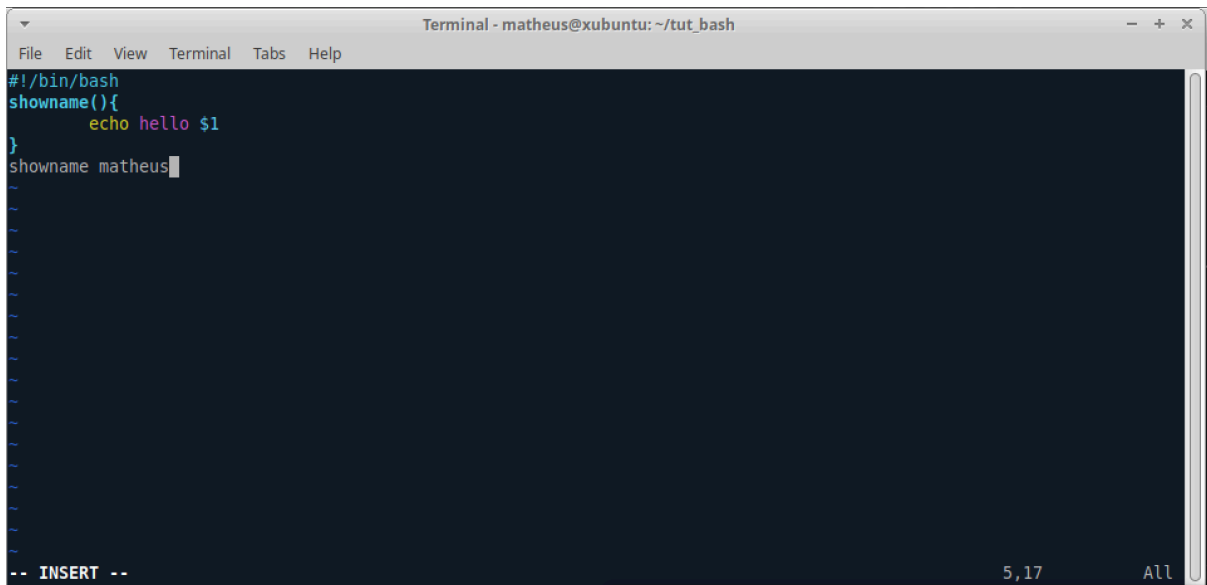
```
Terminal - matheus@xubuntu: ~/tut_bash
File Edit View Terminal Tabs Help
matheus@xubuntu:~/tut_bash$ MY_FIRST_LIST=(um dois tres quatro cinco)
matheus@xubuntu:~/tut_bash$ echo $MY_FIRST_LIST
um
matheus@xubuntu:~/tut_bash$ echo ${MY_FIRST_LIST[@]}
um dois tres quatro cinco
matheus@xubuntu:~/tut_bash$ echo ${MY_FIRST_LIST[0]}
um
matheus@xubuntu:~/tut_bash$ echo ${MY_FIRST_LIST[3]}
quatro
matheus@xubuntu:~/tut_bash$ echo ${MY_FIRST_LIST[1]}
dois
matheus@xubuntu:~/tut_bash$
```

- For loop:



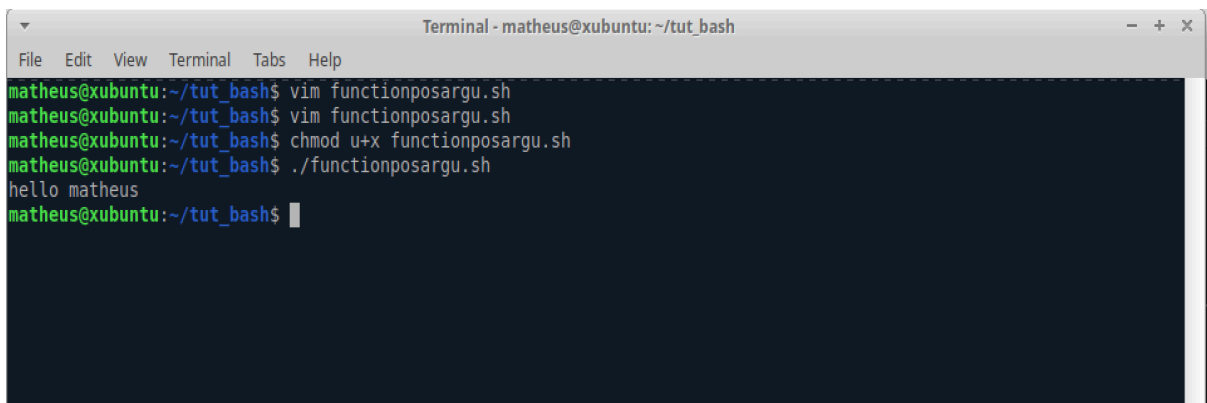
```
Terminal - matheus@xubuntu: ~/tut_bash
File Edit View Terminal Tabs Help
matheus@xubuntu:~/tut_bash$ for item in ${MY_FIRST_LIST[@]}; do echo -n $item | wc -c; done
2
4
4
6
5
matheus@xubuntu:~/tut_bash$
```

- Functions:



```
Terminal - matheus@xubuntu: ~/tut_bash
File Edit View Terminal Tabs Help
#!/bin/bash
showname(){
    echo hello $1
}
showname matheus
-- INSERT -- 5,17 All
```

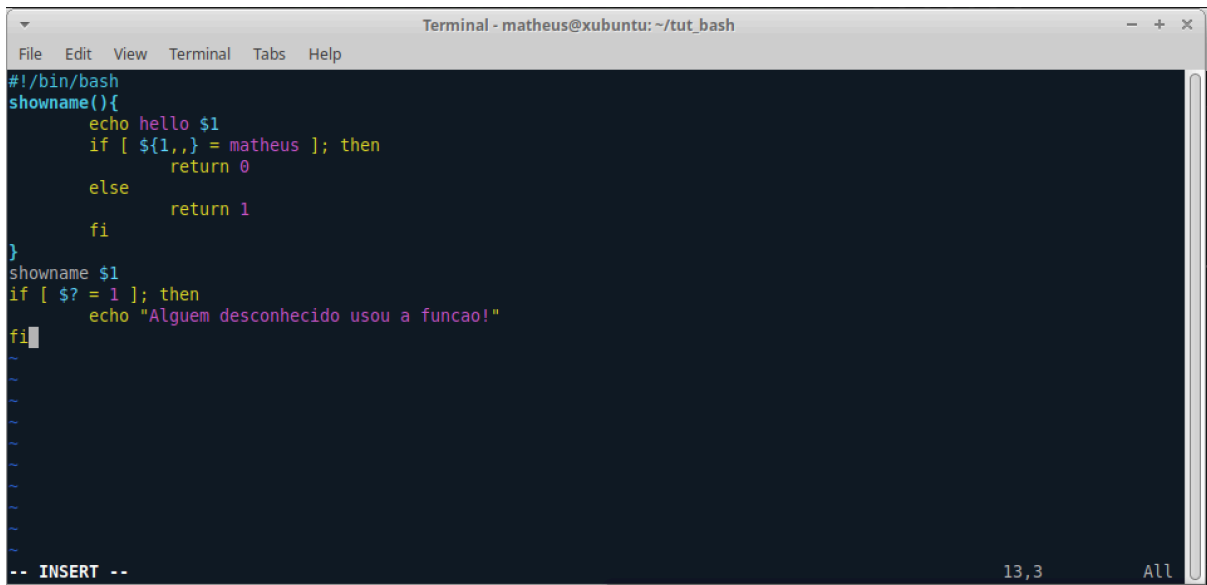
A terminal window titled "Terminal - matheus@xubuntu: ~/tut\_bash". The window contains a function definition for `showname()` which echoes "hello \$1". The function is then called with the argument `matheus`. The terminal shows the function definition, the call, and the resulting output "hello matheus". The status bar at the bottom indicates "-- INSERT --" and line 5, column 17.



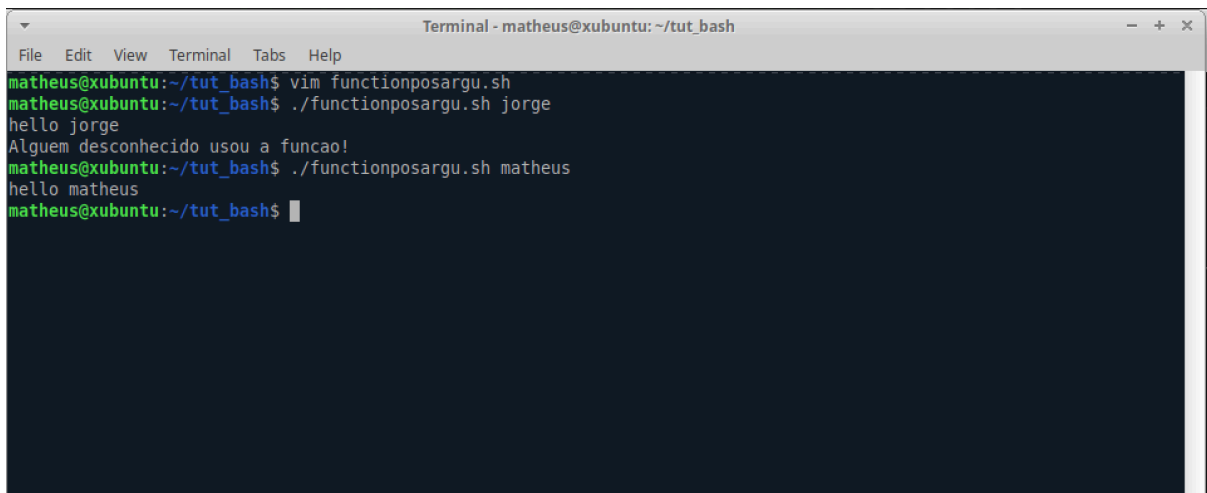
```
Terminal - matheus@xubuntu: ~/tut_bash
File Edit View Terminal Tabs Help
matheus@xubuntu:~/tut_bash$ vim functionposargu.sh
matheus@xubuntu:~/tut_bash$ vim functionposargu.sh
matheus@xubuntu:~/tut_bash$ chmod u+x functionposargu.sh
matheus@xubuntu:~/tut_bash$ ./functionposargu.sh
hello matheus
matheus@xubuntu:~/tut_bash$
```

A terminal window titled "Terminal - matheus@xubuntu: ~/tut\_bash". The window shows the creation of a script `functionposargu.sh` using `vim`, followed by making it executable with `chmod u+x functionposargu.sh`. The script is then executed with `./functionposargu.sh`, resulting in the output "hello matheus". The prompt returns to the shell.

- Exit codes:



```
Terminal - matheus@xubuntu: ~/tut_bash
File Edit View Terminal Tabs Help
#!/bin/bash
showname(){
    echo hello $1
    if [ ${1,,} = matheus ]; then
        return 0
    else
        return 1
    fi
}
showname $1
if [ $? = 1 ]; then
    echo "Alguem desconhecido usou a funcao!"
fi
-- INSERT --
13,3 All
```



```
Terminal - matheus@xubuntu: ~/tut_bash
File Edit View Terminal Tabs Help
matheus@xubuntu:~/tut_bash$ vim functionposargu.sh
matheus@xubuntu:~/tut_bash$ ./functionposargu.sh jorge
hello jorge
Alguem desconhecido usou a funcao!
matheus@xubuntu:~/tut_bash$ ./functionposargu.sh matheus
hello matheus
matheus@xubuntu:~/tut_bash$
```