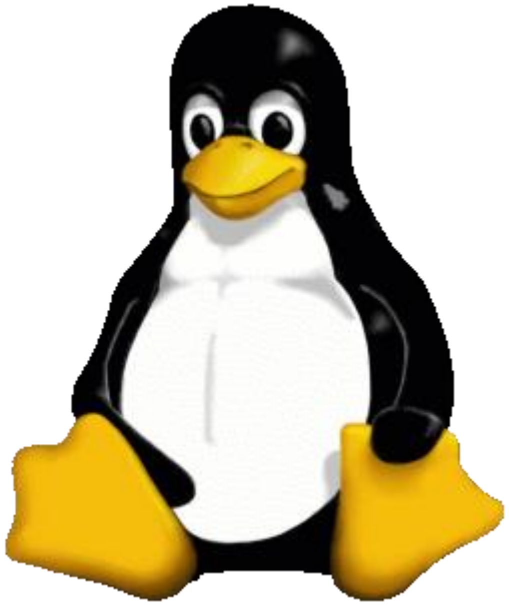
# GNU/Linux

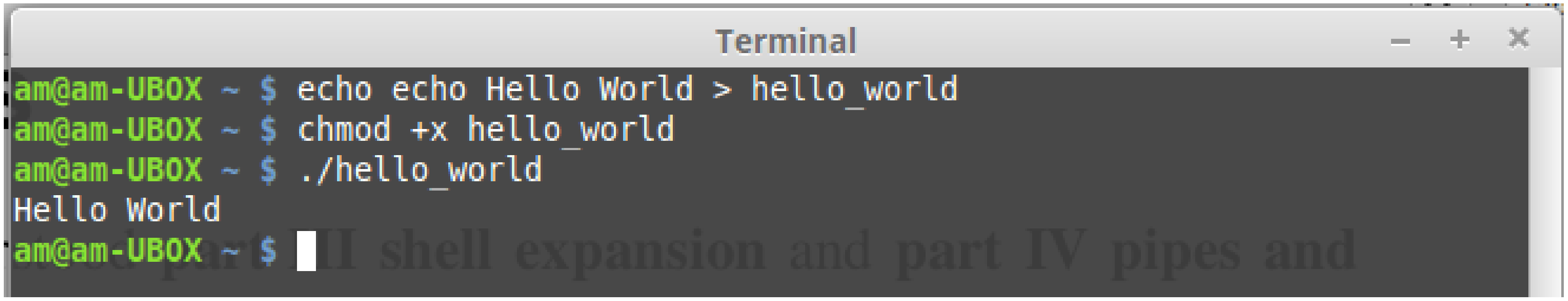
## Scripting I

Lesson 9

By Dr. Amir

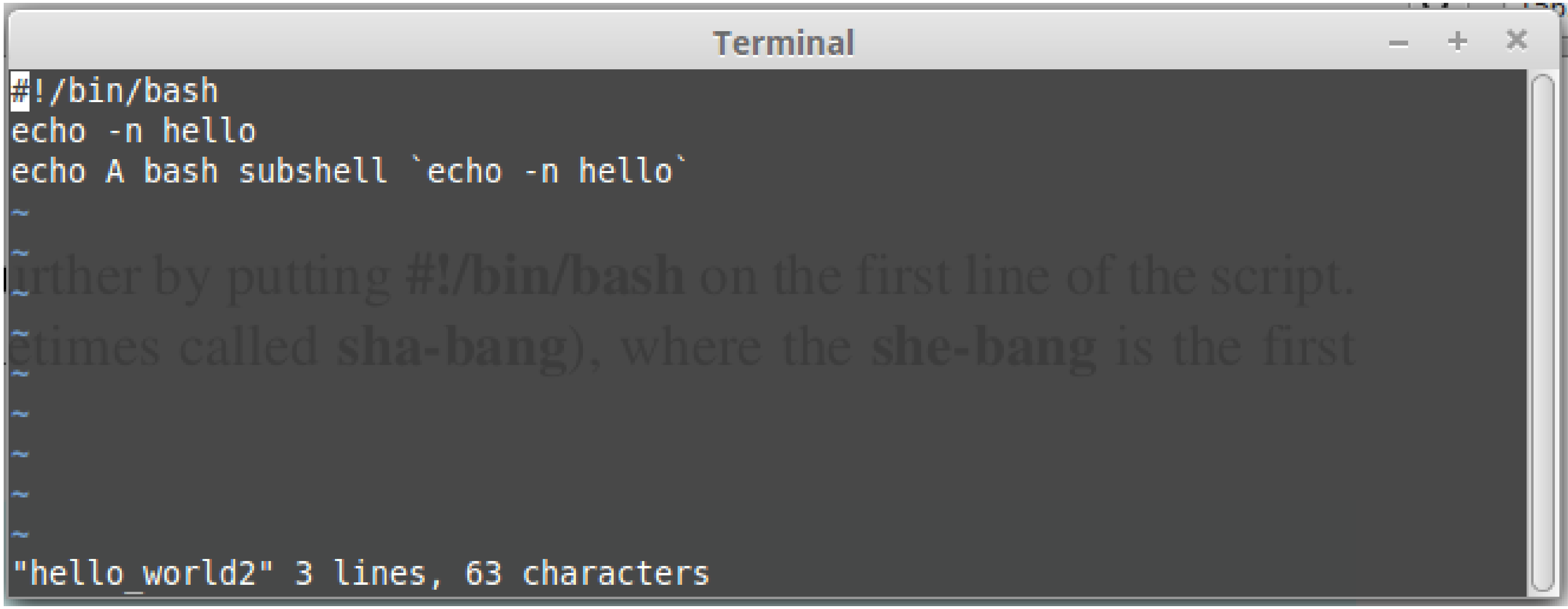


Creating a file called hello_world and writing “Hello World” to it. Then we make it executable and run it as a



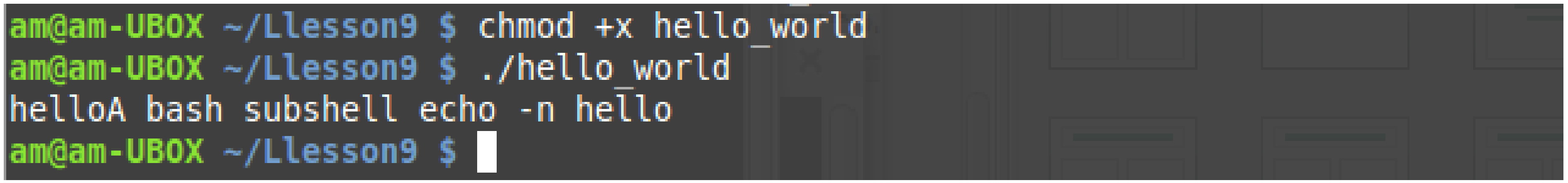
```
am@am-UBOX ~ $ echo echo Hello World > hello_world
am@am-UBOX ~ $ chmod +x hello_world
am@am-UBOX ~ $ ./hello_world
Hello World
am@am-UBOX ~ $ 
```

# she-bang : #!/bin/bash



```
#!/bin/bash
echo -n hello
echo A bash subshell `echo -n hello`
~
~
~
~
~
~
~
~
~
"hello_world2" 3 lines, 63 characters
```

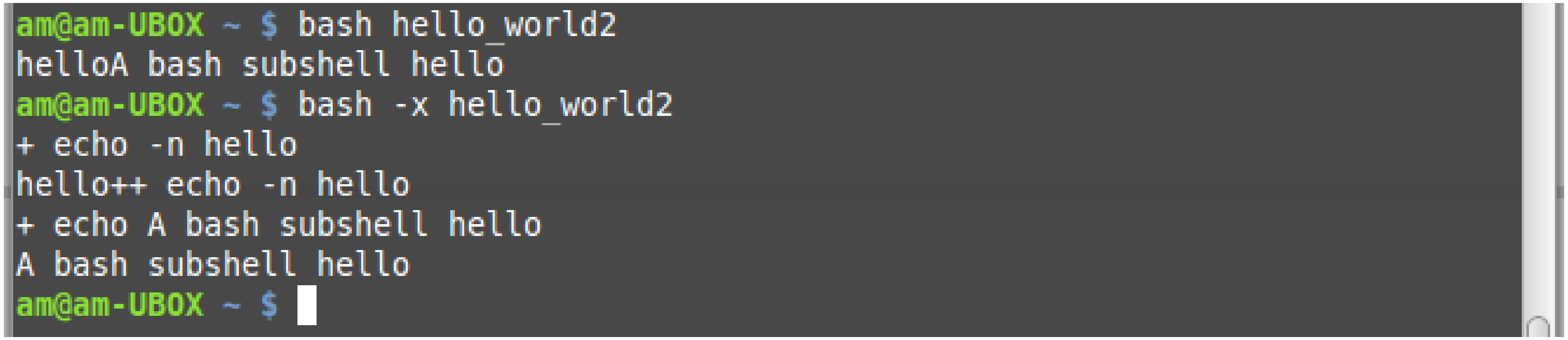
urther by putting **#!/bin/bash** on the first line of the script.
etimes called **sha-bang**), where the **she-bang** is the first



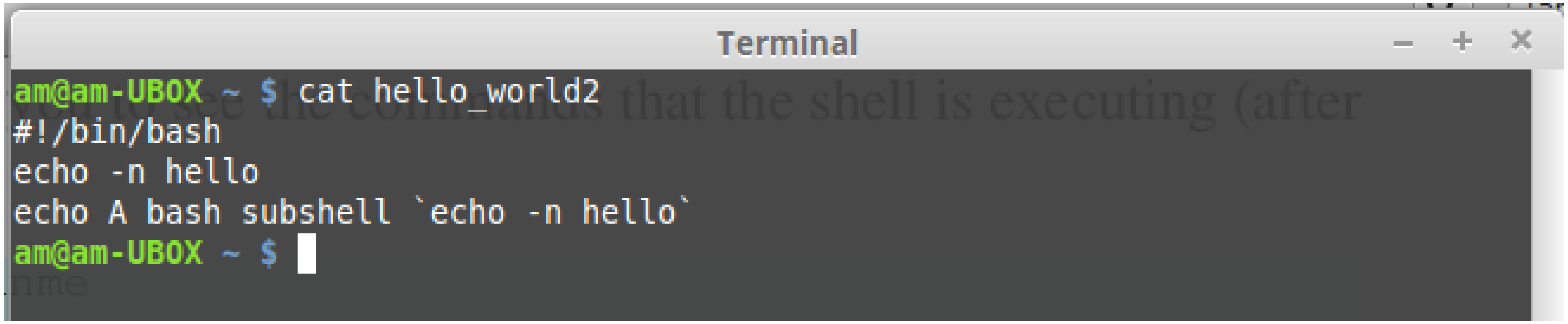
```
am@am-UBOX ~/Llesson9 $ chmod +x hello_world
am@am-UBOX ~/Llesson9 $ ./hello_world
helloA bash subshell echo -n hello
am@am-UBOX ~/Llesson9 $
```

# bash, bash -x

To run a file in Bash. ‘bash –x’ can be used to run a program and debugging at the same time

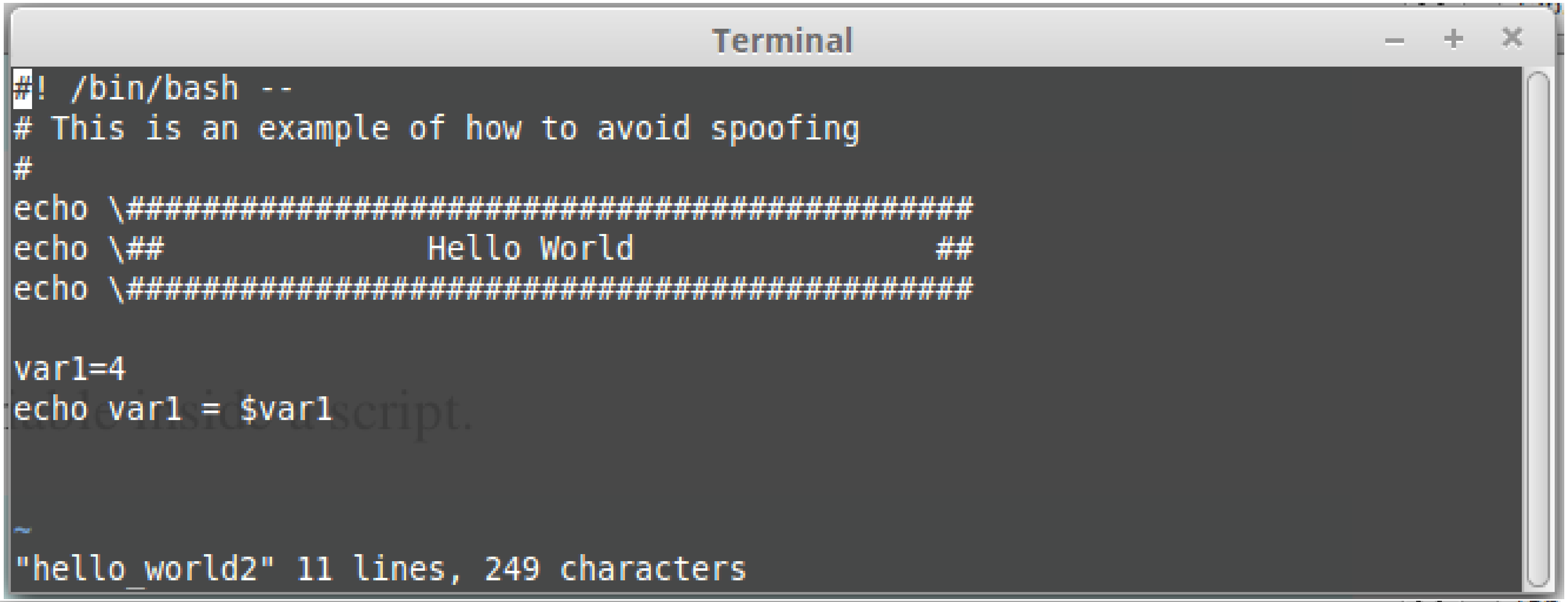


```
am@am-UBOX ~ $ bash hello_world2
helloA bash subshell hello
am@am-UBOX ~ $ bash -x hello_world2
+ echo -n hello
hello++ echo -n hello
+ echo A bash subshell hello
A bash subshell hello
am@am-UBOX ~ $ 
```

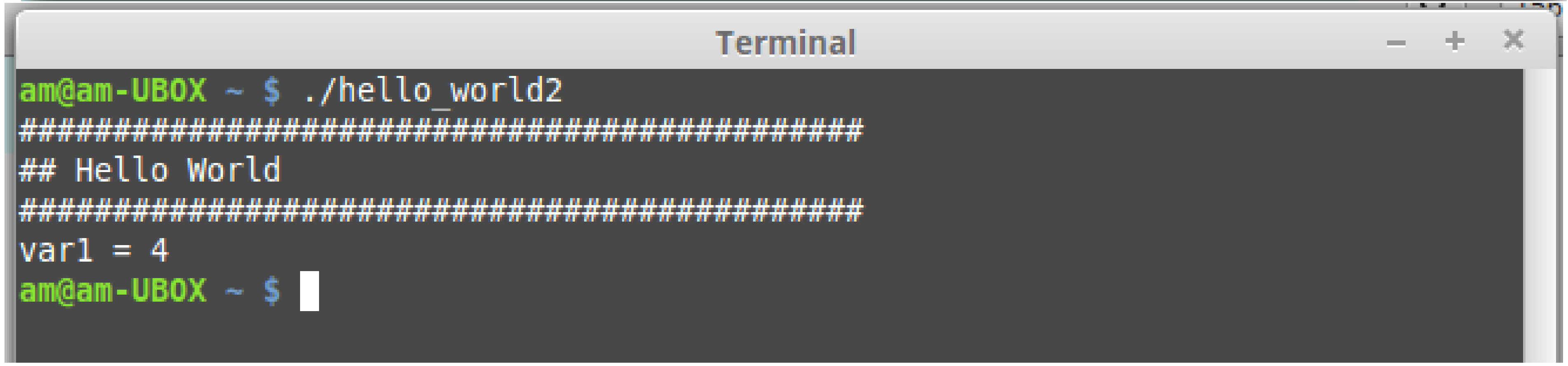


```
am@am-UBOX ~ $ cat hello_world2
#!/bin/bash
echo -n hello
echo A bash subshell `echo -n hello`
am@am-UBOX ~ $ 
```

# To improve security, ‘- -’



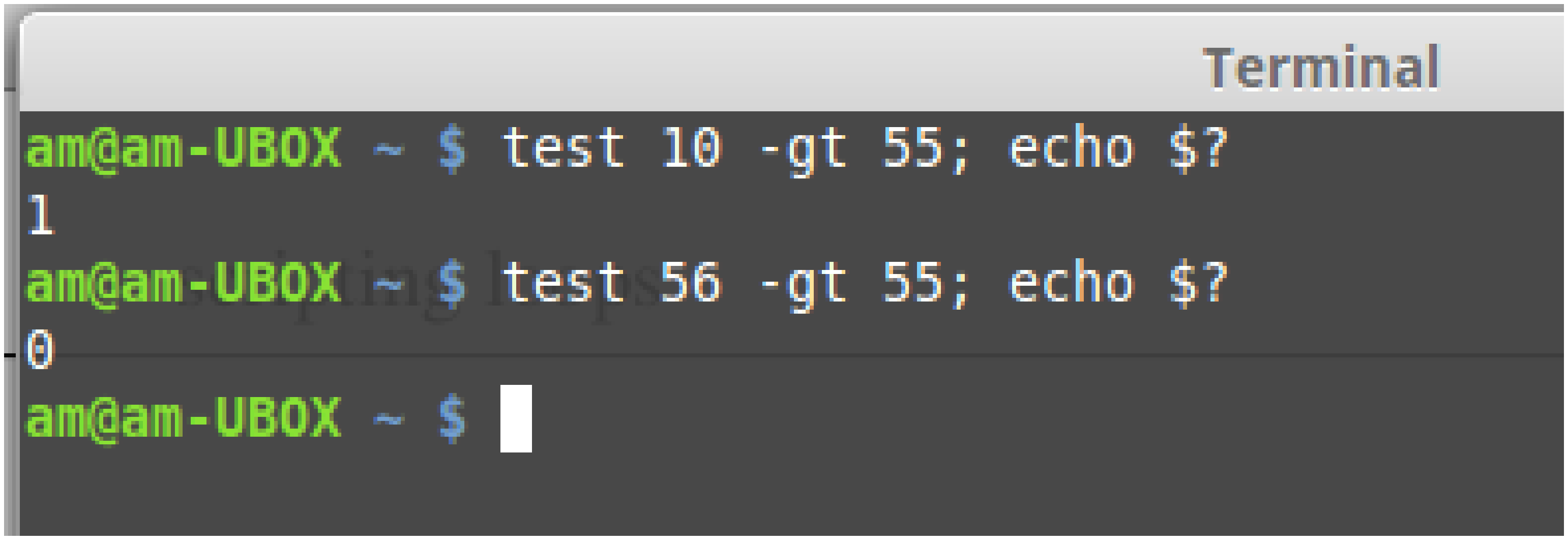
```
#! /bin/bash --
# This is an example of how to avoid spoofing
#
echo \#############################################
echo \##              Hello World                ##
echo \#############################################

var1=4
echo var1 = $var1



~
"hello_world2" 11 lines, 249 characters
```



```
am@am-UBOX ~ $ ./hello_world2
#############################################
## Hello World
#############################################
var1 = 4
am@am-UBOX ~ $
```

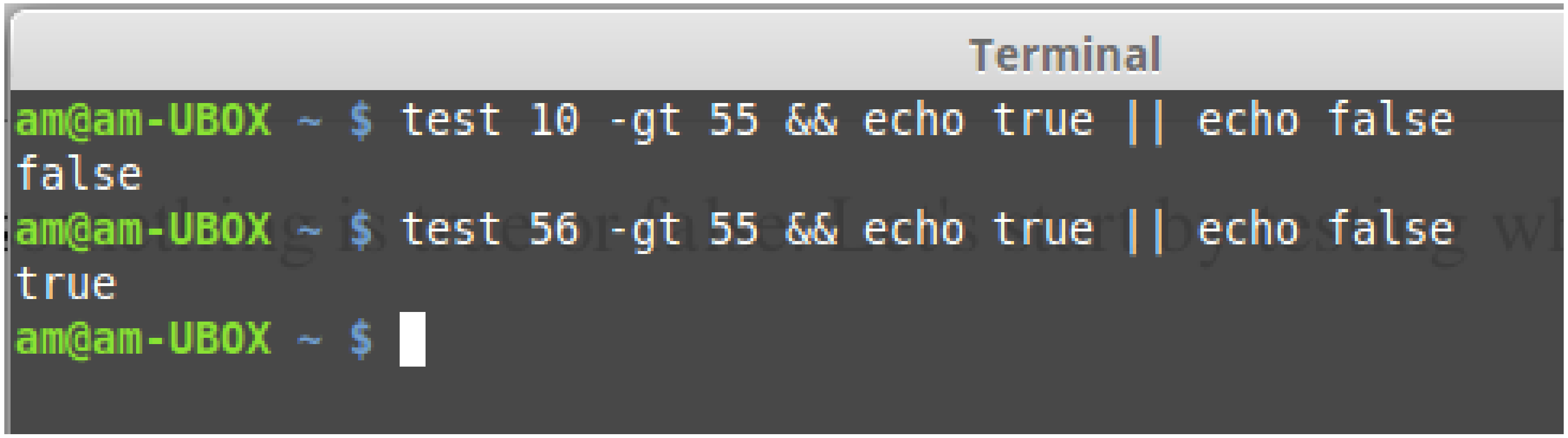
# Command test

The test command returns 1 if the test fails. And as you see in the next screenshot, test returns 0 when a test succeeds.



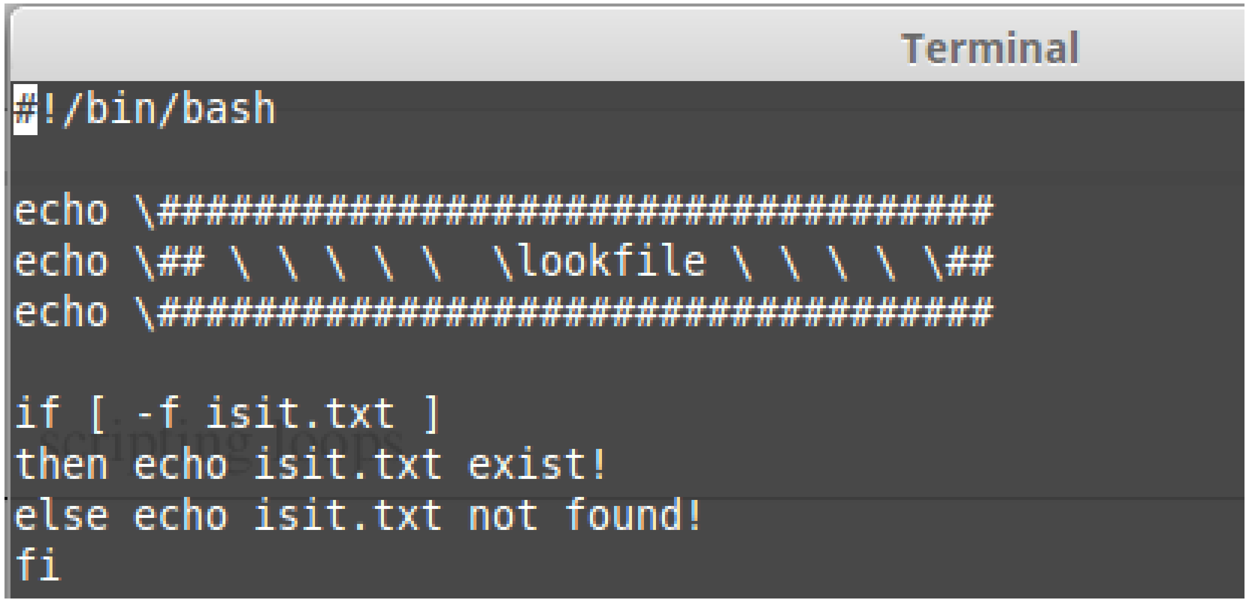
```
am@am-UBOX ~ $ test 10 -gt 55; echo $?
1
am@am-UBOX ~ $ test 56 -gt 55; echo $?
0
am@am-UBOX ~ $ 
```

# Command test (true / false)

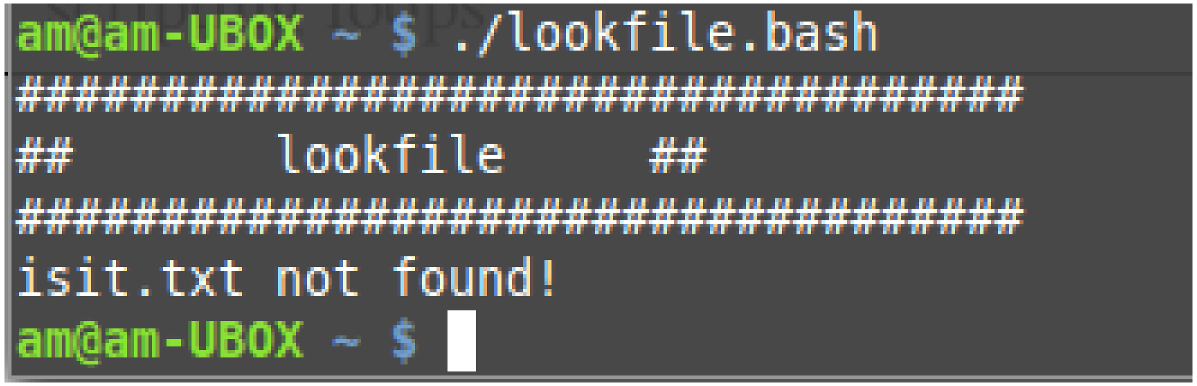


```
am@am-UBOX ~ $ test 10 -gt 55 && echo true || echo false
false
am@am-UBOX ~ $ test 56 -gt 55 && echo true ||echo false
true
am@am-UBOX ~ $ 
```

## Command : if , then , else



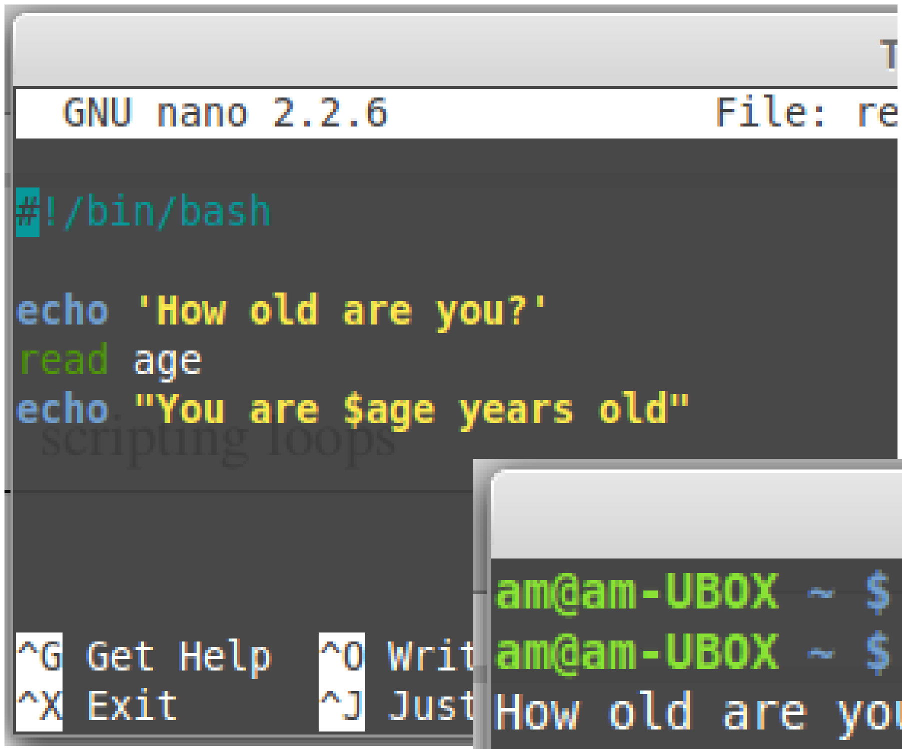
```
#!/bin/bash

echo \###################################
echo \## \ \ \ \ \  \lookfile \ \ \ \ \##
echo \###################################

if [ -f isit.txt ]
then echo isit.txt exist!
else echo isit.txt not found!
fi
```



```
am@am-UBOX ~ $ ./lookfile.bash
###################################
##       lookfile     ##
###################################
isit.txt not found!
am@am-UBOX ~ $
```

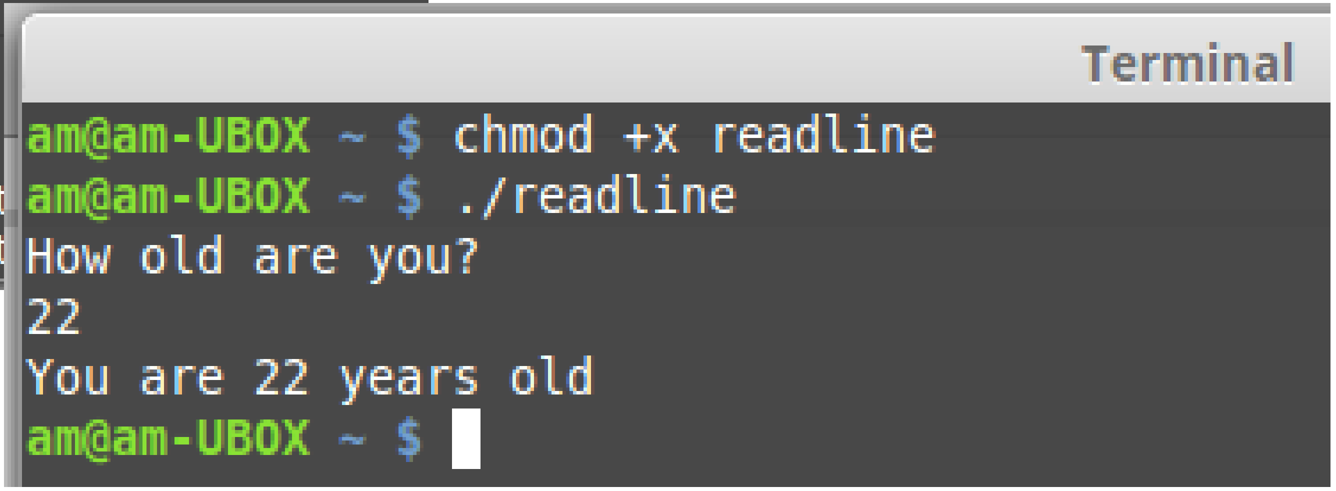
# Command: read

To read a value from the keyboard



```
  GNU nano 2.2.6                File: re

#!/bin/bash

echo 'How old are you?'
read age
echo "You are $age years old"

^G Get Help    ^O Writ
^X Exit        ^J Just
```

scripting loops



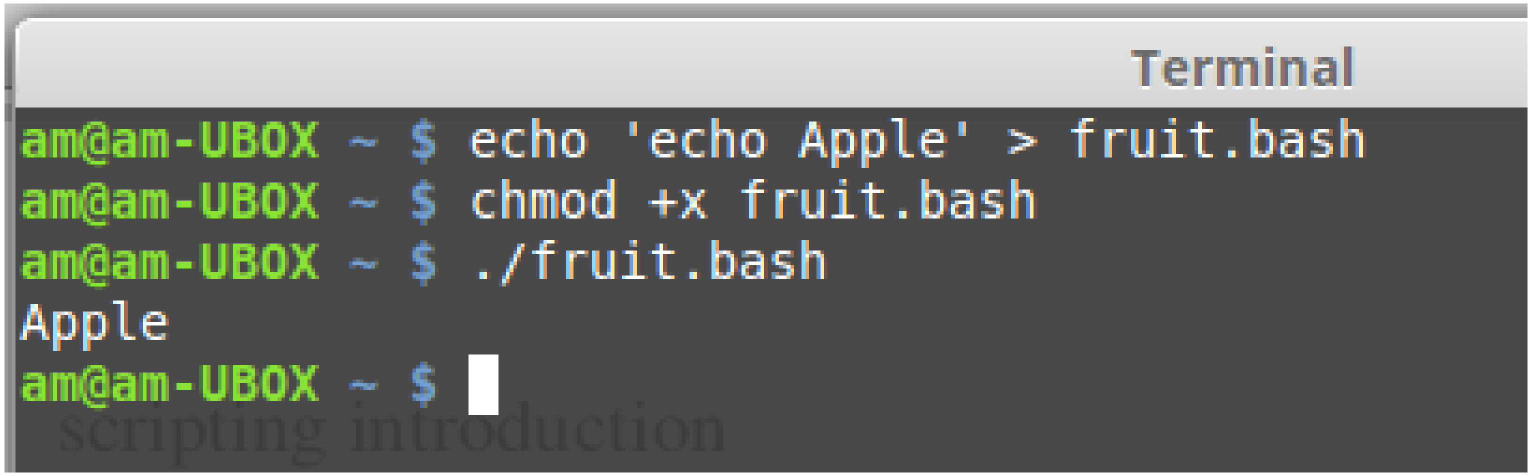
```
am@am-UBOX ~ $ chmod +x readline
am@am-UBOX ~ $ ./readline
How old are you?
22
You are 22 years old
am@am-UBOX ~ $ 
```

## Exercises 1

Write a script that check for a file in /usr/shared/man.nanorc

## Exercises 1

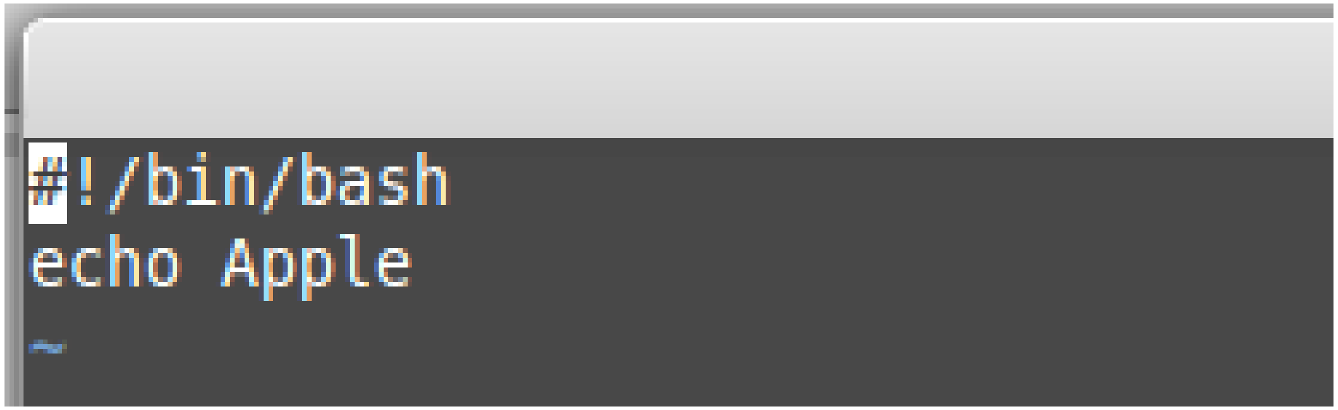
Write a script that outputs the name of a fruit.



```
am@am-UBOX ~ $ echo 'echo Apple' > fruit.bash
am@am-UBOX ~ $ chmod +x fruit.bash
am@am-UBOX ~ $ ./fruit.bash
Apple
am@am-UBOX ~ $ 
```

Exercises 2

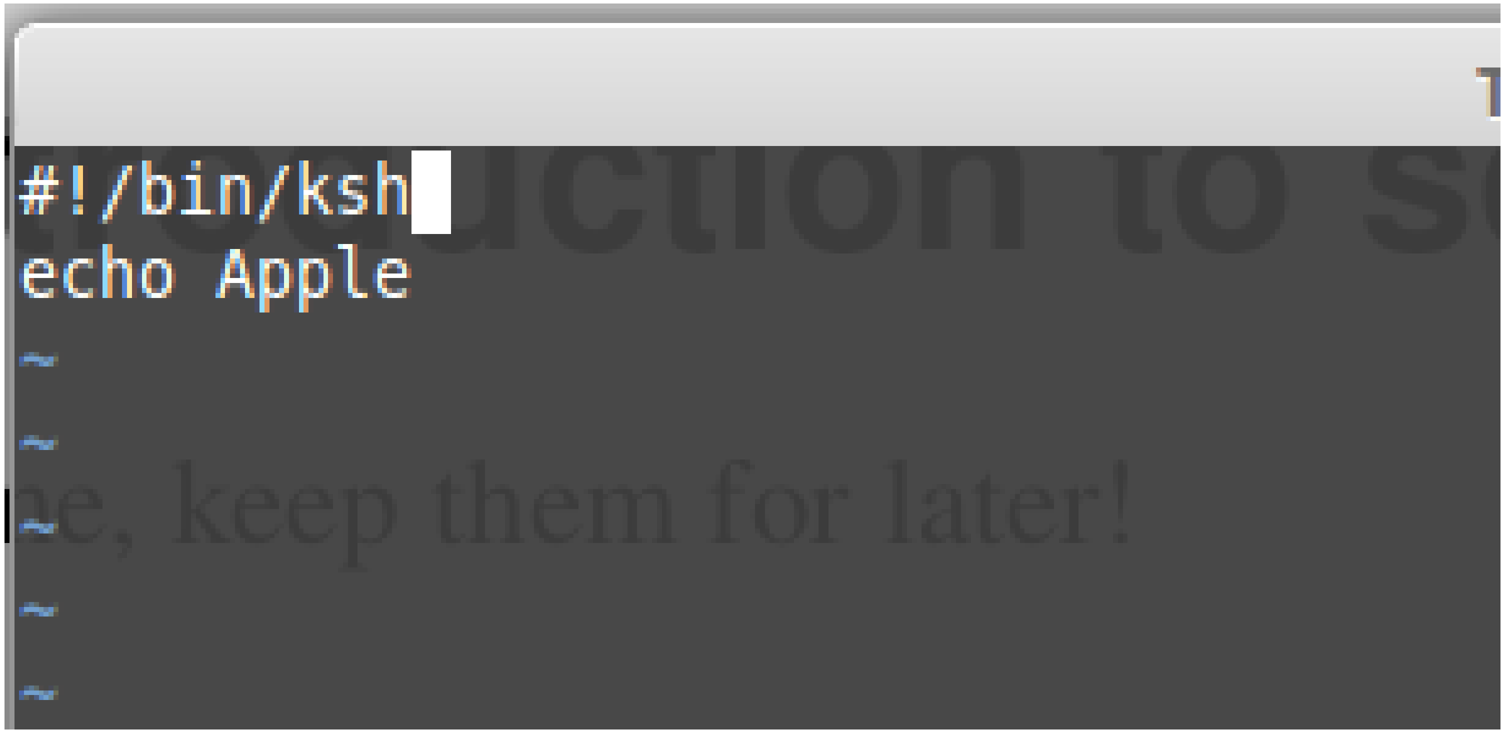
Make sure the script runs in the bash shell.



```
#!/bin/bash
echo Apple
~
```

Exercises

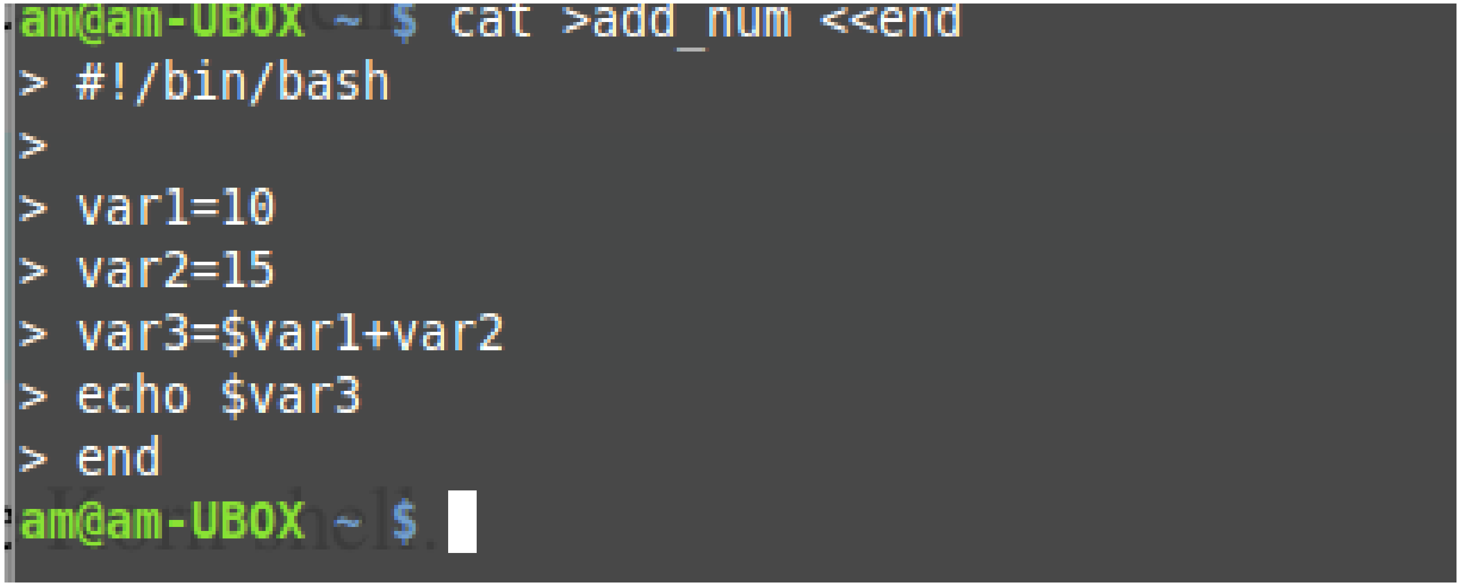
## Make sure the script runs in the Korn shell.



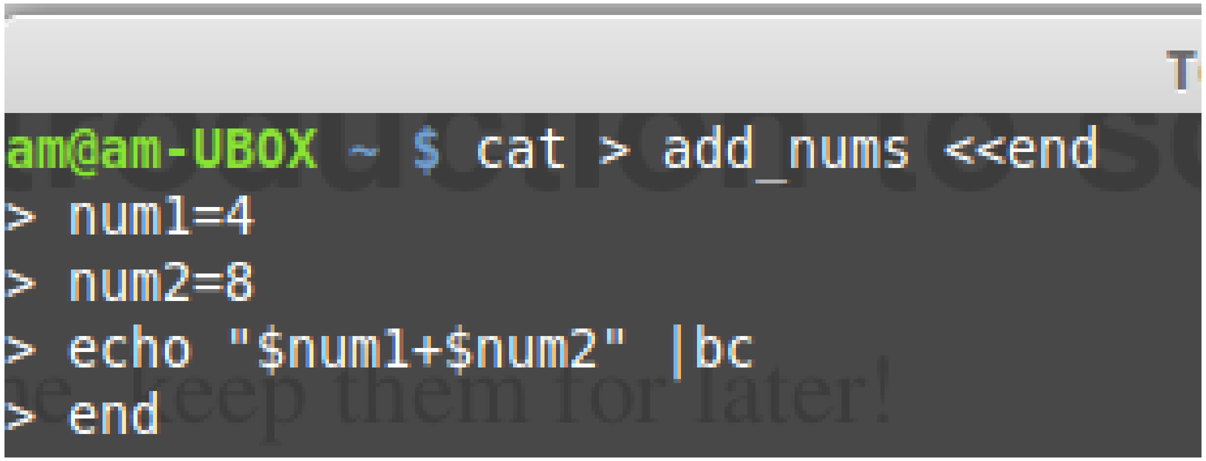
```
#!/bin/ksh
echo Apple
~
~
~
~
~
```

## Exercises

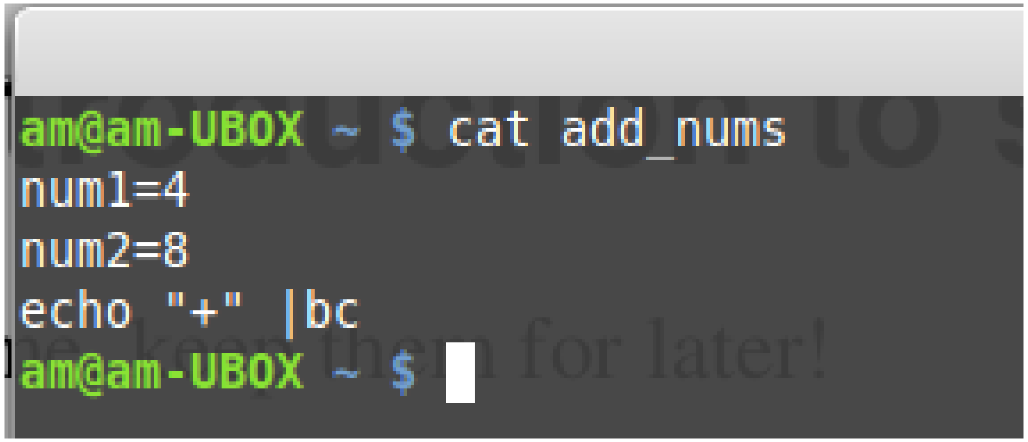
Create a script that defines two variables, and outputs their total.



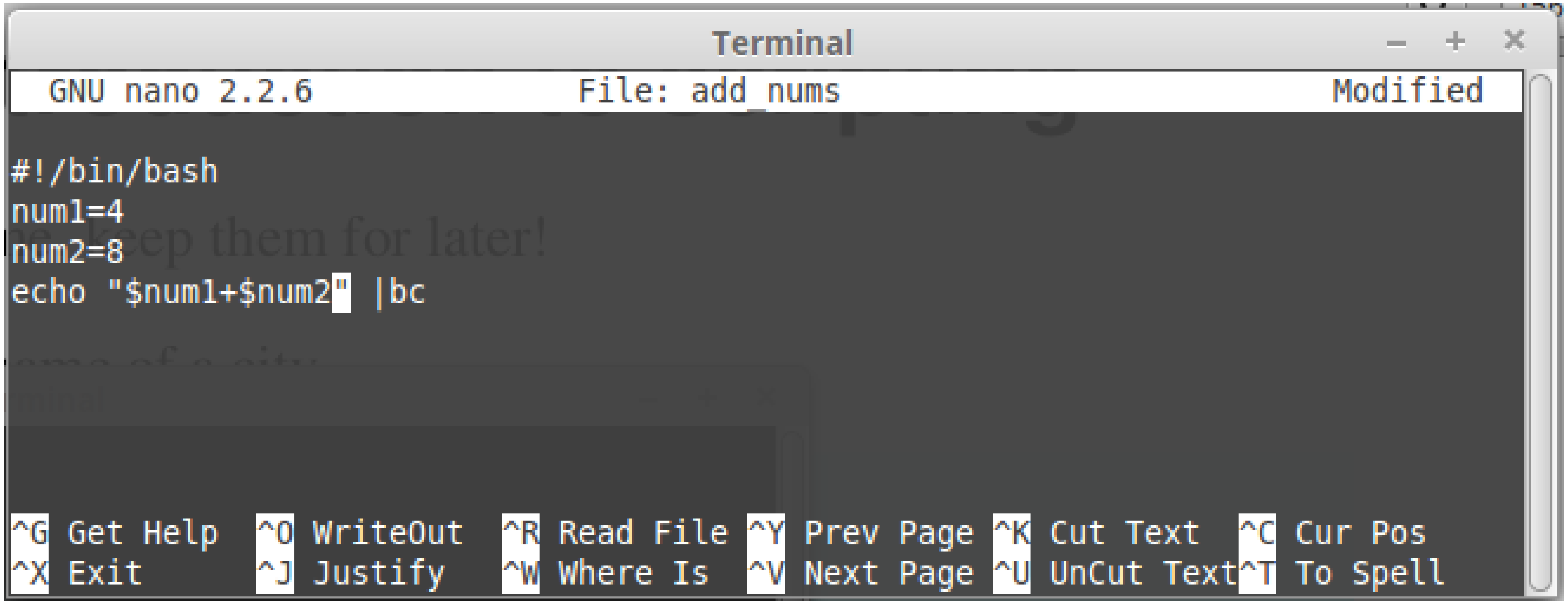
```
am@am-UBOX ~ $ cat >add_num <<end
> #!/bin/bash
>
> var1=10
> var2=15
> var3=$var1+var2
> echo $var3
> end
am@am-UBOX ~ $
```



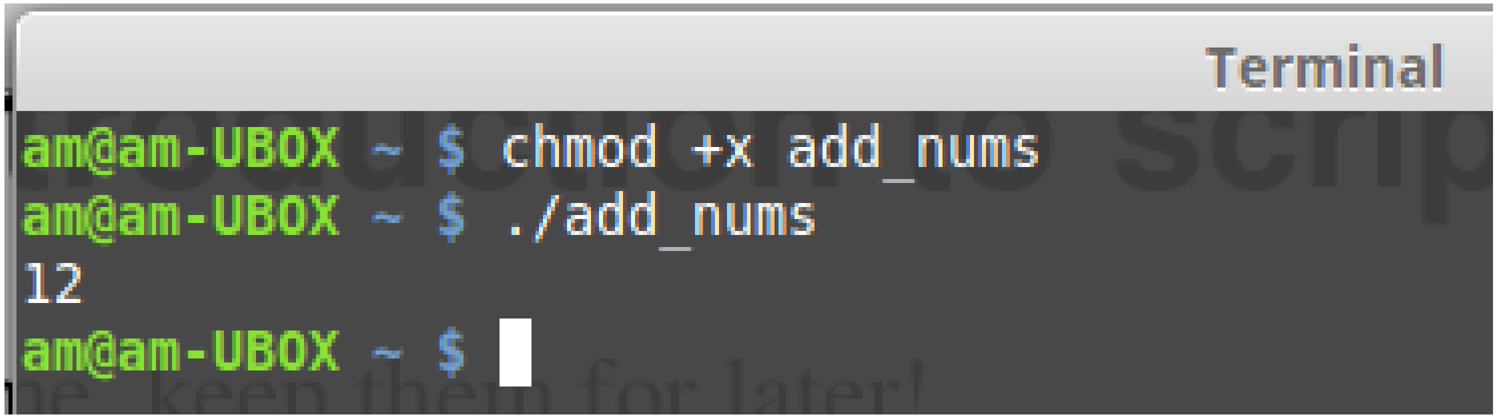
```
am@am-UBOX ~ $ cat > add_nums <<end
> num1=4
> num2=8
> echo "$num1+$num2" |bc
> end
```



```
am@am-UBOX ~ $ cat add_nums
num1=4
num2=8
echo "+" |bc
am@am-UBOX ~ $ 
```



```
  GNU nano 2.2.6              File: add_nums                           Modified

#!/bin/bash
num1=4
num2=8
echo "$num1+$num2" |bc





^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```



```
am@am-UBOX ~ $ chmod +x add_nums
am@am-UBOX ~ $ ./add_nums
12
am@am-UBOX ~ $ 
```

## Exercises

Write a script to ask the user for name, age, and nationality. Then print out the collected information

## Exercises

Write a script to receive two command line arguments and add them together, then display the result.

## Exercises

Write a script to ask you for a file name. if it exists, run ls –ahl, if it doesn’t exists, create and then run ls –ahl.