EPAM University Programs
DevOps external course
Module 4 Linux Essentials with Bash
TASK 4.9

4.9.1 Check the location of the bash shell and use this path in scripts #! / Full_path_to_program program_option

```
bobrov@bobrov-VirtualBox:~$ echo $BASH
/bin/bash
```

4.9.2 We verify that bash is running using a special built-in variable.

```
bobrov@bobrov-VirtualBox:~$ echo $0
-bash
```

```
bobrov@bobrov-VirtualBox:~$ echo $SHELL
/bin/bash
```

```
bobrov@bobrov-VirtualBox:~$ ps -p $$
  PID TTY          TIME CMD
 1372 pts/0    00:00:00 bash
```

4.9.3 Create a directory where your scripts will be stored, for example, .../tmp/scripts.

```
bobrov@bobrov-VirtualBox:~$ cd /tmp
bobrov@bobrov-VirtualBox:/tmp$ mkdir scripts
```

4.9.4 Create a script that displays the following message: "In my home directory <n> subdirectory: <name>". n - quantity, name - the name of the directory. Make this script an executable program and run using the interpretation commands in the current shell (this applies to all subsequent scripts).

```
#!/bin/bash
# Create a variable with a link to my home directory
varDir=$(echo $HOME)
# Count how many subdirectories in my home directory and create the
variable
countSubdir=$(find "$varDir" -type d | sed 's/\// /g' |\
awk '{$1=$2=""; print $0}' | awk 'NF > 0' | awk 'END{print NR}')
# Display a message with count a directories
echo "In my home directory "$countSubdir" subdirectories:"
# Display directory names
find "$varDir" -type d | sed 's/\// /g' |\
awk '{$1=$2=""; print $0}' | awk 'NF > 0' | awk '{print $NF}' | sort >
file494
cat file494
```

```
bobrov@bobrov-VirtualBox:/tmp/scripts$ ./scr494
In my home directory 295 subdirectories:
1451318868ntouromlalnodry--epcr.files
1657114595AmcateirvtiSty.files
2018.9.6.0
2020-04
2020.4.27.1141
27
2823318777ntouromlalnodry--naod.files
2918063365piupsah.files
3
3561288849sdhlie.files
3647222921wleabcEoxlt-eengsairo.files
3870112724rsegmnoittet-es.files
42
5844
5849
7
8220.319.1.2_0
9.12.0
9.12.0
934
963
```

4.9.5 Create a script that reads a word from the screen and displays the number of characters in that word.

```bash
#!/bin/bash
awk 'BEGIN {print "Please write word"; print}\
{print "Length of word is: " length($0)}'
```

```
bobrov@bobrov-VirtualBox:/tmp/scripts$ ./scr495
Please write word

devops
Length of word is: 6
^Z
[23]+  Stopped                 ./scr495
bobrov@bobrov-VirtualBox:/tmp/scripts$
```
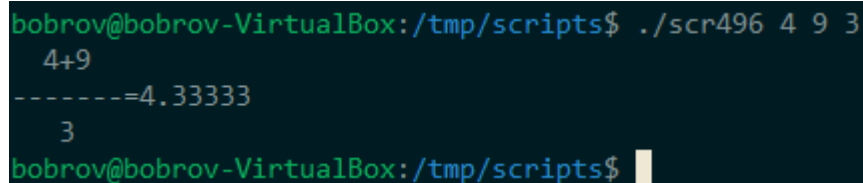
4.9.6 Write a script that sequentially (using positional parameters) takes three arguments a, b and c and displays the value (a + b) / c as a simple fraction.

```bash
#!/bin/bash

var1=$(echo "scale=5; $1+$2" | bc)
var2=$(echo "scale=5; $var1/$3" | bc)

echo "  $1+$2"
echo "-------=$var2"
echo "   $3"
```

```
bobrov@bobrov-VirtualBox:/tmp/scripts$ ./scr496 4 9 3
  4+9
-------=4.33333
   3
bobrov@bobrov-VirtualBox:/tmp/scripts$
```

4.9.7 Write a script that sequentially takes two arguments and displays the larger one. If there are more than two arguments, display an error message.
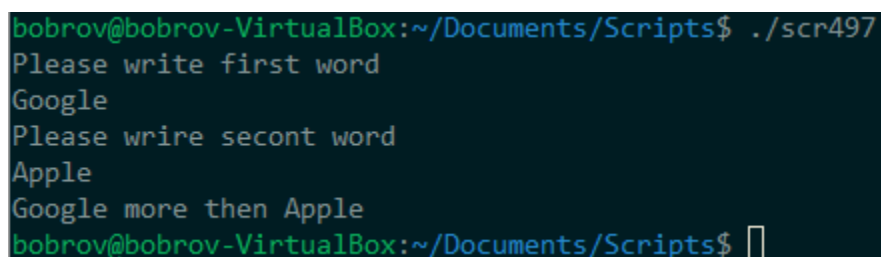
```bash
#!/bin/bash

echo "Please write first word"
read first

echo "Please wrire secont word"
read second

var1=$(echo "$first" | awk "END {print NF}")
var2=$(echo "$second" | awk "END {print NF}")

if [[ -z "$first" || -z "$second" ]]; then
  echo "ERROR 1 Too few words in the field"
elif [[ "$var1">1 || "$var2">1 ]]; then
  echo "ERROR 2 Too many words in the field"
elif [[ "$first">"$second" ]]; then
  echo "$first more then $second"
elif [[ "$first"<"$second" ]]; then
  echo "$second more then $first"
else
  echo "$first and $second are the same"
fi
```

```
bobrov@bobrov-VirtualBox:~/Documents/Scripts$ ./scr497
Please write first word
Google
Please wrire secont word
Apple
Google more then Apple
bobrov@bobrov-VirtualBox:~/Documents/Scripts$
```

4.9.8 Check what position the 'a' character is in path.

```
#!/bin/bash
# Create variable with word "path"
str1=$(echo "path")
# Search position letter "a" in the string
echo "Letter \"a\" in the string "$str1" on the position: "\
`expr index "$str1" a`
```

```
bobrov@bobrov-VirtualBox:~/Documents/Scripts$ ./scr498
Letter "a" in the string path on the position: 2
```

4.9.9 Remove the time zone name (EEST) from the date. Rearrange the day and month.

```
#!/bin/bash
# Display date and delete field with timezone and swap columns 2;3
date | awk '{$5=""; print $0}' |\
awk '{t = $2; $2 = $3; $3 = t; print $0}'
```

```
bobrov@bobrov-VirtualBox:~/Documents/Scripts$ date
Mon May  4 23:07:40 EEST 2020
bobrov@bobrov-VirtualBox:~/Documents/Scripts$ ./scr499
Mon 4 May 23:07:46 2020
bobrov@bobrov-VirtualBox:~/Documents/Scripts$
```

4.9.10 Print a line containing the sentence: "I went to the <current directory> at <time> using the identifier <UID>".

```
#!/bin/bash
vartime=$(date | awk '{print $4}')
varlink=$(pwd)
varid=$(echo $UID)
echo "I visited directory $varlink at $vartime using ID $varid"
```

```
bobrov@bobrov-VirtualBox:~/Documents/Scripts$ ./scr4910
I visited directory /home/bobrov/Documents/Scripts at 00:14:01 using ID 1000
bobrov@bobrov-VirtualBox:~/Documents/Scripts$
```

4.9.11 Derive from $PATH the path to the last in the directory list (3 ways).

```
#!/bin/bash
echo "First method"
echo "$PATH" | sed 's/:/\t/g' | awk '{print $NF}'

echo "Second method"
echo "Third method"
```

I made only one method.

4.9.12 Try to display the value of a variable not previously declared and get the error message you specified.

```
#!/bin/bash
${param?"ERROR message"}
```

```
bobrov@bobrov-VirtualBox:~/Documents/Scripts$ ./scr4912
./scr4912: line 3: param: ERROR message
```

4.9.13 In the script using wget, download the document from the mail.ru server head page and redirect the received document to the links (lynx) input.

```
#!/bin/bash
wget http://google.com.ua | lynx index.html
```

```
bobrov@bobrov-VirtualBox:~/Documents/Scripts$ ./scr4913
--2020-05-05 03:35:25--  http://google.com.ua/
Resolving google.com.ua (google.com.ua)... 216.58.215.99, 2a00:1450:401b:807::2003
Connecting to google.com.ua (google.com.ua)|216.58.215.99|:80... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: http://www.google.com.ua/ [following]
--2020-05-05 03:35:25--  http://www.google.com.ua/
Resolving www.google.com.ua (www.google.com.ua)... 172.217.16.3, 2a00:1450:401b:804::2
003
Connecting to www.google.com.ua (www.google.com.ua)|172.217.16.3|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: 'index.html.4'

index.html.4            [ <=>                    ]  13.45K  --.-KB/s    in 0.03s

2020-05-05 03:35:25 (520 KB/s) - 'index.html.4' saved [13776]

bobrov@bobrov-VirtualBox:~/Documents/Scripts$
```

Google

▢▢ YouTube Gmail ▢ »
▢▢ - | ▢ |

Google

——————————————————————————————
Google Submit

, ▢ ▢ ▢ ▢
Google:

r▢ ▢ GoogleGoogle.com

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(NORMAL LINK) Use right-arrow or <return> to activate.
 Arrow keys: Up and Down to move. Right to follow a link; Left to go back.
H)elp O)ptions P)rint G)o M)ain screen Q)uit /=search [delete]=history list