Shell

Scripting

ASSIGNMENT

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1. (output to terminal)Write a script to print:

a. “Welcome to Intelligrape”

```
maithely@maithely:~$ sudo vim welcome.txt
[sudo] password for maithely:
maithely@maithely:~$ cat welcome.txt
echo WELCOME TO INTELLIGRAPE
maithely@maithely:~$ bash welcome.txt
WELCOME TO INTELLIGRAPE
maithely@maithely:~$
```

b. <username>@<hostname>:<your present working directory>

```
maithely@maithely:~$ sudo vim welcome.txt
maithely@maithely:~$ cat welcome.txt
echo WELCOME TO INTELLIGRAPE
echo `whoami`@`hostname`:`pwd`
maithely@maithely:~$ bash welcome.txt
WELCOME TO INTELLIGRAPE
maithely@maithely:/home/maithely
maithely@maithely:~$
```

2 (arguments)Write a script

a. which takes in two arguments and print those arguments.

```
maithely@maithely:~$ cat args.txt
#!/bin/bash
echo $1 $2
maithely@maithely:~$ bash args.txt var1 var2
var1 var2
maithely@maithely:~$
```

b. which checks the number of arguments passed and if the number is greater than two print ERROR message along with printing the number of arguments.

```
#!/bin/bash
if [ $# -gt 2 ]
then
        echo error
        echo $#
else
        echo $1
        echo $2
fi

~
~
```

```
maithely@maithely:~$ bash args.txt var1 var2 var3
error
3
maithely@maithely:~$ bash args.txt var1 var2
var1
var2
```

3. Continue with the above script

a. check the two arguments are only integer values and if these are not integers print the proper error on terminal and also log it into a file.

```
sum()
{
        x=$1
        y=$2
        sum=`expr $x + $y `
        echo "$sum"

}
if [[ "$1" =~ ^[0-9]+$ ]] && [[ "$2" =~ ^[0-9]+$ ]]
then
        sum $1 $2
else
        echo both args are not integers
        echo both args are not integers > error.log


fi
~
~
```

```
maithely@maithely:~$ bash int.sh abc def
both args are not integers
maithely@maithely:~$ cat error.log
both args are not integers
maithely@maithely:~$
```

b. perform addition on the two arguments and print result on screen. Use function for this.

```
maithely@maithely:~$ bash int.sh 23 12
35
maithely@maithely:~$
```

4. Create a calculator using the above script which would perform addition,subtraction,division and multliplication.

a. the script should ask user which operation the user wants to perform:+,-,*,/

```
maithely@maithely: ~
File  Edit  View  Search  Terminal  Help
echo "please  enter 2 numbers"
read n1
read n2
echo "please choose an operation"
echo "1. add"
echo "2. subtract"
echo "3. divide"
echo "4. multiply"
read opr

if [ $opr = "1" ]
   then
      echo $((n1+n2))
elif [ $opr = "2" ]
   then
      echo $((n1-n2))
elif [ $opr = "3" ]
   then
      echo $((n1/n2))
elif [ $opr = "4" ]
   then
       echo $((n1*n2))

fi
exit 0
```

b. if user enters other than “+.-,*,/”, print proper message on terminal and keeps on asking for correct input(use while loop to accomplish this).

```
maithely@maithely:~$ bash calc.sh
please  enter 2 numbers
4
7
please choose an operation
1. add
2. subtract
3. divide
4. multiply
1
11
maithely@maithely:~$
```

c. Use case statement instead of if.

```
maithely@maithely: ~
File  Edit  View  Search  Terminal  Help
#!/bin/sh
echo "Enter Two numbers : "
read a
read b
echo "Enter Choice from 1 to 4 :"
echo "1. Addition"
echo "2. Subtraction"
echo "3. Multiplication"
echo "4. Division"
read ch
case $ch in
        1) result=$((a +b))
                echo $result ;;
        2) result=$((a - b))
                echo $result ;;
        3) result=$((a * b))
                echo $result ;;
        4) result=$((a / b))
                echo $result ;;
        *) echo "wrong choice" ;;

esac
```

```
maithely@maithely:~$ bash switch.sh
Enter Two numbers :
2
3
Enter Choice from 1 to 4 :
1. Addition
2. Subtraction
3. Multiplication
4. Division
3
6
maithely@maithely:~$
```

5. Write proper help documentation and print it with -h for above script.

```
maithely@maithely: ~
File  Edit  View  Search  Terminal  Help
main : this is the calculator
options:
1 = sum
2 = sub
3 = mul
4 = dev
~
~
```

Also make changes in the file of switch.sh

```
File  Edit  View  Search  Terminal  Help
#!/bin/sh
if [ $1 == "-h" ]
then
        less calculator
        exit 0;
fi
while [1]
do

echo "Enter Two numbers : "
read a
read b
echo "Enter Choice from 1 to 4 :"
echo "1. Addition"
echo "2. Subtraction"
echo "3. Multiplication"
echo "4. Division"
read ch
case $ch in
        1) result=$((a +b))
                echo $result ;;
        2) result=$((a - b))
                echo $result ;;
        3) result=$((a * b))
                echo $result ;;
        4) result=$((a / b))
                echo $result ;;
Terminal) echo "wrong choice" ;;

esac
done
~
~
```

```
maithely@maithely:~$ bash switch.sh
switch.sh: line 2: [: ==: unary operator expected
Enter Two numbers :
3
4
Enter Choice from 1 to 4 :
1. Addition
2. Subtraction
3. Multiplication
4. Division
2
result :
maithely@maithely:~$
```

6. Create a script which takes input of "/etc/passwd" file and find out and print the sum of uids and gids. The script should tell which sum of greater.
Create a file calculator

```
maithely@maithely:~$ bash sumugid
uid=70588 pid=397702
397702
```

7. A directory contains files and sub-directories. Move files to destination1 and directories to destination2

```
maithely@maithely: ~/shell
File  Edit  View  Search  Terminal  Help
for i in `ls`
do
   if [[ "$i" != "destination1" && "$i"  != "destination2" && "$i" !=
"dest.sh" ]]
   then
        if [ -f $i ]
        then
                mv $i destination1/$i;
        fi
        if [ -d $i ]
        then
                mv $i destination2/$i;
        fi
fi
done
```

```
maithely@maithely:~/shell$ ls
destination1  destination2  dest.sh  line
maithely@maithely:~/shell$ mkdir {a..g}
maithely@maithely:~/shell$ touch {1..10}
maithely@maithely:~/shell$ bash dest.sh
maithely@maithely:~/shell$ ls
destination1  destination2  dest.sh
maithely@maithely:~/shell$ cd destination1
maithely@maithely:~/shell/destination1$ ls
1  10  2  3  4  5  6  7  8  9  line
maithely@maithely:~/shell/destination1$ cd ..
maithely@maithely:~/shell$ cd destination2
maithely@maithely:~/shell/destination2$ ls
a  b  c  d  e  f  g
maithely@maithely:~/shell/destination2$
```

8. Create a script which take three arguments, append first argument to every line in a file and second argument to the end of every line of the same file..

```
maithely@maithely:~/shell/destination1$ sudo vim file1
[sudo] password for maithely:
```

In file1 write :
hi
hello
how
are
you

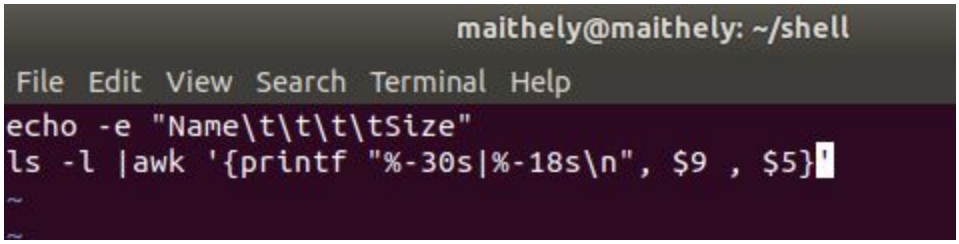
```
maithely@maithely:~/shell/destination1$ bash line maithely append file1
maithely@maithely:~/shell/destination1$ cat file1
maithelyhiappend
maithelyhelloappend
maithelyhowappend
maithelyare append
maithelyyouappend
maithely@maithely:~/shell/destination1$
```

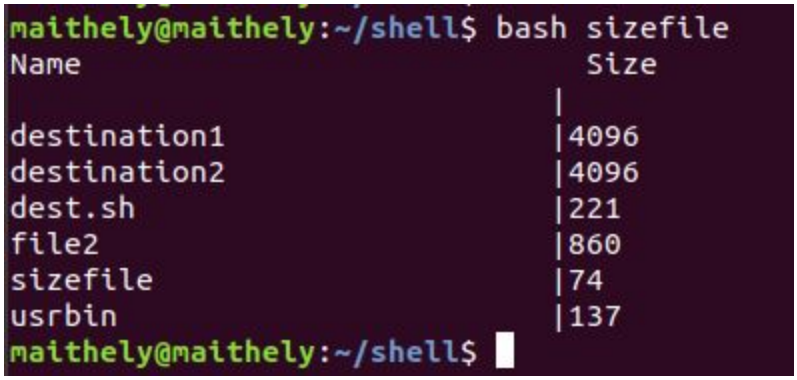
9. Make a list of files in /usr/bin that have the letter "a" as the second character. Put the result in a temporary file.

```
                                maithely@maithely: ~/shell
File  Edit  View  Search  Terminal  Help
for i in `ls /usr/bin`
do
        j=`echo $i | head -c 2 |tail -c 1`
        if [ "$j" == "a" ]
        then
                echo $i >> /home/maithely/shell/file2
        fi
done
```

```
maithely@maithely:~/shell$ sudo vim usrbin
maithely@maithely:~/shell$ bash usrbin
maithely@maithely:~/shell$ cat /home/maithely/shell/file2
aa-enabled
aa-exec
baobab
base32
base64
basename
bashbug
cal
calendar
calibrate_ppa
canberra-gtk-play
cancel
captoinfo
catchsegv
catman
cautious-launcher
daemon
factor
faillog
fallocate
gamma4scanimage
gapplication
gatttool
gawk
jar
jarsigner
java
javac
javadoc
javah
javap
laptop-detect
last
lastb
```

10. List all files in your home directory and print name and size in a table format.




maithely@maithely:~/shell$ bash sizefile
Name Size
destination1 |4096
destination2 |4096
dest.sh |221
file2 |860
sizefile |74
usrbin |137
maithely@maithely:~/shell$