Shell Script:

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

a. “Welcome to Intelligrape”

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

```
ayush@ayush:~/github/ttnbootcamp-tothenew$ cat welcome
echo "welcome to intelligrape"
echo `whoami`@`hostname`:`pwd`
ayush@ayush:~/github/ttnbootcamp-tothenew$ bash welcome
welcome to intelligrape
ayush@ayush:/home/ayush/github/ttnbootcamp-tothenew
ayush@ayush:~/github/ttnbootcamp-tothenew$
```

2 (arguments)Write a script

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

```
ayush@ayush:~/github/ttnbootcamp-tothenew$ cat arg.sh
if [ $# -gt 2 ]
then
        echo too many args.
        echo $#
else
        echo $1
        echo $2
fi
ayush@ayush:~/github/ttnbootcamp-tothenew$ ./arg.sh hello world
hello
world
ayush@ayush:~/github/ttnbootcamp-tothenew$
```

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.

```
ayush@ayush:~/github/ttnbootcamp-tothenew$ cat arg.sh
if [ $# -gt 2 ]
then
        echo too many args.
        echo $#
else
        echo $1
        echo $2
fi
ayush@ayush:~/github/ttnbootcamp-tothenew$ ./arg.sh hello world many
too many args.
3
ayush@ayush:~/github/ttnbootcamp-tothenew$
```

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.

```
ayush@ayush:~/github/ttnbootcamp-tothenew$ ./arg.sh 10 1
ARGS ARE INTERGERS
ayush@ayush:~/github/ttnbootcamp-tothenew$ ./arg.sh aga auu
BOTH ARGS ARE NOT INTEGERS
ayush@ayush:~/github/ttnbootcamp-tothenew$ vim arg.sh
ayush@ayush:~/github/ttnbootcamp-tothenew$ cat arg.sh
if [[ "$1" =~ ^[0-9]+$ ]] && [[ "$2" =~ ^[0-9]+$ ]]
then
        echo "ARGS ARE INTERGERS"
else
        echo "BOTH ARGS ARE NOT INTEGERS"
        echo "BOTH ARGS ARE NOT INTEGERS" > error.log
fi
ayush@ayush:~/github/ttnbootcamp-tothenew$
```

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

```
ayush@ayush:~/github/ttnbootcamp-tothenew$ vim arg.sh
ayush@ayush:~/github/ttnbootcamp-tothenew$ ./arg.sh 20 10
30
ayush@ayush:~/github/ttnbootcamp-tothenew$
ayush@ayush:~/github/ttnbootcamp-tothenew$ ./arg.sh sw 12
BOTH ARGS ARE NOT INTEGERS
ayush@ayush:~/github/ttnbootcamp-tothenew$ cat error.log
BOTH ARGS ARE NOT INTEGERS
ayush@ayush:~/github/ttnbootcamp-tothenew$ cat arg.sh
sum()
{
        x=$1
        y=$2
        sum=`expr $x + $y`
        echo "$sum"
}
if [[ "$1" =~ ^[0-9]+$ ]] && [[ "$2" =~ ^[0-9]+$ ]]
then
        sum $1 $2
else
        echo "BOTH ARGS ARE NOT INTEGERS"
        echo "BOTH ARGS ARE NOT INTEGERS" > error.log
fi
ayush@ayush:~/github/ttnbootcamp-tothenew$
```

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:+,-,*,/

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

c. Use case statement instead of if.

```
ayush@ayush:~/github/ttnbootcamp-tothenew$ cat cal.sh
#!/bin/bash
echo "Enter Two numbers : "
read a
read b

echo "Enter Choice :"
echo "1. Addition"
echo "2. Subtraction"
echo "3. Multiplication"
echo "4. Division"
read ch

case $ch in
  1)res=$(( $a + $b ))
  ;;
  2)res=$(( $a - $b ))
  ;;
  3)res=$(( $a \* $b ))
  ;;
  4)res=$(( $a / $b ))
  ;;
esac
echo "Result : $res"
```

```
ayush@ayush:~/github/ttnbootcamp-tothenew$ ./cal.sh
Enter Two numbers :
12
78
Enter Choice :
1. Addition
2. Subtraction
3. Multiplication
4. Division
1
Result : 90
ayush@ayush:~/github/ttnbootcamp-tothenew$ ./cal.sh
Enter Two numbers :
22
11
Enter Choice :
1. Addition
2. Subtraction
3. Multiplication
4. Division
4
Result : 2
ayush@ayush:~/github/ttnbootcamp-tothenew$
```

```
ayush@ayush:~/github/ttnbootcamp-tothenew$ ./cal.sh
Enter Two numbers :
34
45
Enter Choice :
1. Addition
2. Subtraction
3. Multiplication
4. Division
2
Result : -11
ayush@ayush:~/github/ttnbootcamp-tothenew$ ./cal.sh
Enter Two numbers :
12
3
Enter Choice :
1. Addition
2. Subtraction
3. Multiplication
4. Division
3
Result : 36
ayush@ayush:~/github/ttnbootcamp-tothenew$
```

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

```
Description :
        This calculator can person basic arithmetic operation
options :
        -h for help
manual_calculator (END)
```

```
ayush@ayush:~/github/ttnbootcamp-tothenew$ cat cal.sh
#!/bin/bash
if [ $1 == "-h" ]
then
        less manual_calculator
        exit 0
fi

echo "Enter Two numbers : "
read a
read b

echo "Enter Choice :"
echo "1. Addition"
echo "2. Subtraction"
echo "3. Multiplication"
echo "4. Division"
read ch

case $ch in
  1)res=$(( $a + $b ))
  ;;
  2)res=$(( $a - $b ))
  ;;
  3)res=$(( $a * $b ))
  ;;
  4)res=$(( $a / $b ))
  ;;
esac
echo "Result : $res"
```

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.

```
ayush@ayush:~/github/ttnbootcamp-tothenew$ vim sum.sh
ayush@ayush:~/github/ttnbootcamp-tothenew$ bash sum.sh
udis=70462  pids=462977
462977
ayush@ayush:~/github/ttnbootcamp-tothenew$ cat sum.sh
awk -F: '{a+=$3; b+=$4}END{print "udis="a" " " pids="b" ";
if(a>b){
        print a
}else{
print b
}
}' /etc/passwd
ayush@ayush:~/github/ttnbootcamp-tothenew$
```

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

```
ayush@ayush:~/github/ttnbootcamp-tothenew/dir$ cat move.sh
for i in `ls`
do
        if [[ "$i" != "dest1" && "$i" != "dest2" && "$i" != "move.sh" ]]
        then
                if [ -f $i ]
                then
                        mv $i dest1/$i
                fi
                if [ -d  $i ]
                then
                        mv $i dest2/$i
                fi
        fi
done

ayush@ayush:~/github/ttnbootcamp-tothenew/dir$
```

```
ayush@ayush:~/github/ttnbootcamp-tothenew/dir$ mkdir {a..f}
ayush@ayush:~/github/ttnbootcamp-tothenew/dir$ ls
a  b  c  d  dest1  dest2  e  f  move.sh
ayush@ayush:~/github/ttnbootcamp-tothenew/dir$ touch {1..7}
ayush@ayush:~/github/ttnbootcamp-tothenew/dir$
```

```
ayush@ayush:~/github/ttnbootcamp-tothenew/dir$ ll
total 44
drwxr-xr-x 10 ayush ayush 4096 Mar  3 09:02 ./
drwxr-xr-x  4 ayush ayush 4096 Mar  3 08:57 ../
-rw-r--r--  1 ayush ayush    0 Mar  3 09:02 1
-rw-r--r--  1 ayush ayush    0 Mar  3 09:02 2
-rw-r--r--  1 ayush ayush    0 Mar  3 09:02 3
-rw-r--r--  1 ayush ayush    0 Mar  3 09:02 4
-rw-r--r--  1 ayush ayush    0 Mar  3 09:02 5
-rw-r--r--  1 ayush ayush    0 Mar  3 09:02 6
-rw-r--r--  1 ayush ayush    0 Mar  3 09:02 7
drwxr-xr-x  2 ayush ayush 4096 Mar  3 09:02 a/
drwxr-xr-x  2 ayush ayush 4096 Mar  3 09:02 b/
drwxr-xr-x  2 ayush ayush 4096 Mar  3 09:02 c/
drwxr-xr-x  2 ayush ayush 4096 Mar  3 09:02 d/
drwxr-xr-x  2 ayush ayush 4096 Mar  3 08:57 dest1/
drwxr-xr-x  2 ayush ayush 4096 Mar  3 08:57 dest2/
drwxr-xr-x  2 ayush ayush 4096 Mar  3 09:02 e/
drwxr-xr-x  2 ayush ayush 4096 Mar  3 09:02 f/
-rw-r--r--  1 ayush ayush  197 Mar  3 09:01 move.sh
ayush@ayush:~/github/ttnbootcamp-tothenew/dir$
```

```
ayush@ayush:~/github/ttnbootcamp-tothenew/dir$ bash move.sh
ayush@ayush:~/github/ttnbootcamp-tothenew/dir$ ll
total 20
drwxr-xr-x 4 ayush ayush 4096 Mar  3 09:02 ./
drwxr-xr-x 4 ayush ayush 4096 Mar  3 08:57 ../
drwxr-xr-x 2 ayush ayush 4096 Mar  3 09:02 dest1/
drwxr-xr-x 8 ayush ayush 4096 Mar  3 09:02 dest2/
-rw-r--r-- 1 ayush ayush  197 Mar  3 09:01 move.sh
ayush@ayush:~/github/ttnbootcamp-tothenew/dir$ ll -l dest1
total 8
drwxr-xr-x 2 ayush ayush 4096 Mar  3 09:02 ./
drwxr-xr-x 4 ayush ayush 4096 Mar  3 09:02 ../
-rw-r--r-- 1 ayush ayush    0 Mar  3 09:02 1
-rw-r--r-- 1 ayush ayush    0 Mar  3 09:02 2
-rw-r--r-- 1 ayush ayush    0 Mar  3 09:02 3
-rw-r--r-- 1 ayush ayush    0 Mar  3 09:02 4
-rw-r--r-- 1 ayush ayush    0 Mar  3 09:02 5
-rw-r--r-- 1 ayush ayush    0 Mar  3 09:02 6
-rw-r--r-- 1 ayush ayush    0 Mar  3 09:02 7
ayush@ayush:~/github/ttnbootcamp-tothenew/dir$ ll -l dest2
total 32
drwxr-xr-x 8 ayush ayush 4096 Mar  3 09:02 ./
drwxr-xr-x 4 ayush ayush 4096 Mar  3 09:02 ../
drwxr-xr-x 2 ayush ayush 4096 Mar  3 09:02 a/
drwxr-xr-x 2 ayush ayush 4096 Mar  3 09:02 b/
drwxr-xr-x 2 ayush ayush 4096 Mar  3 09:02 c/
drwxr-xr-x 2 ayush ayush 4096 Mar  3 09:02 d/
drwxr-xr-x 2 ayush ayush 4096 Mar  3 09:02 e/
drwxr-xr-x 2 ayush ayush 4096 Mar  3 09:02 f/
ayush@ayush:~/github/ttnbootcamp-tothenew/dir$
```

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..

```
ayush@ayush:~/github/ttnbootcamp-tothenew$ cat file
hello
hallo
hola
ciao
bonjour
ayush@ayush:~/github/ttnbootcamp-tothenew$ vim append.sh
ayush@ayush:~/github/ttnbootcamp-tothenew$ bash append.sh test language file
test hello language
test hallo language
test hola language
test ciao language
test bonjour language
ayush@ayush:~/github/ttnbootcamp-tothenew$
```

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.

```
ayush@ayush:~/github/ttnbootcamp-tothenew$ cat search.sh
for i in `ls /usr/bin`
do
        j=`echo $i | head -c 2 | tail -c 1`
        if [ "$j" == "a" ]
        then
                echo $i >> /tmp/test
        fi
done
ayush@ayush:~/github/ttnbootcamp-tothenew$ bash search.sh
ayush@ayush:~/github/ttnbootcamp-tothenew$ cat /tmp/test
aa-enabled
aa-exec
baobab
base32
base64
basename
bashbug
cal
calendar
calibrate_ppa
canberra-gtk-play
cancel
captoinfo
catchsegv
catman
cautious-launcher
factor
faillog
faked-sysv
faked-tcp
```

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

```
ayush@ayush:~/github/ttnbootcamp-tothenew$ cat  table.sh
echo -e "Name\t\t\t\tSize"
ls -l ~ | awk '{printf ("%-30s|%-18s\n" ,$9,$5)}'
ayush@ayush:~/github/ttnbootcamp-tothenew$ bash table.sh
Name                                Size
                                   |
awscli-bundle.zip                  |327680
backup                             |4096
bin                                |4096
cerebro                            |4096
cerebro_0.3.0_amd64.deb            |312901
ci-bot                             |4096
data.txt                           |1089
Desktop                            |4096
docker                             |4096
Dockerfile                         |276
Documents                          |4096
Downloads                          |4096
dump                               |4096
eksctl                             |4096
eksctl_Linux_amd64.tar.gz.1        |20709564
eks-microservice-master            |4096
error.html                         |11
examples.desktop                   |8980
excerise                           |4096
file1                              |0
file1.txt                          |12
file2                              |0
github                             |4096
github1                            |4096
```