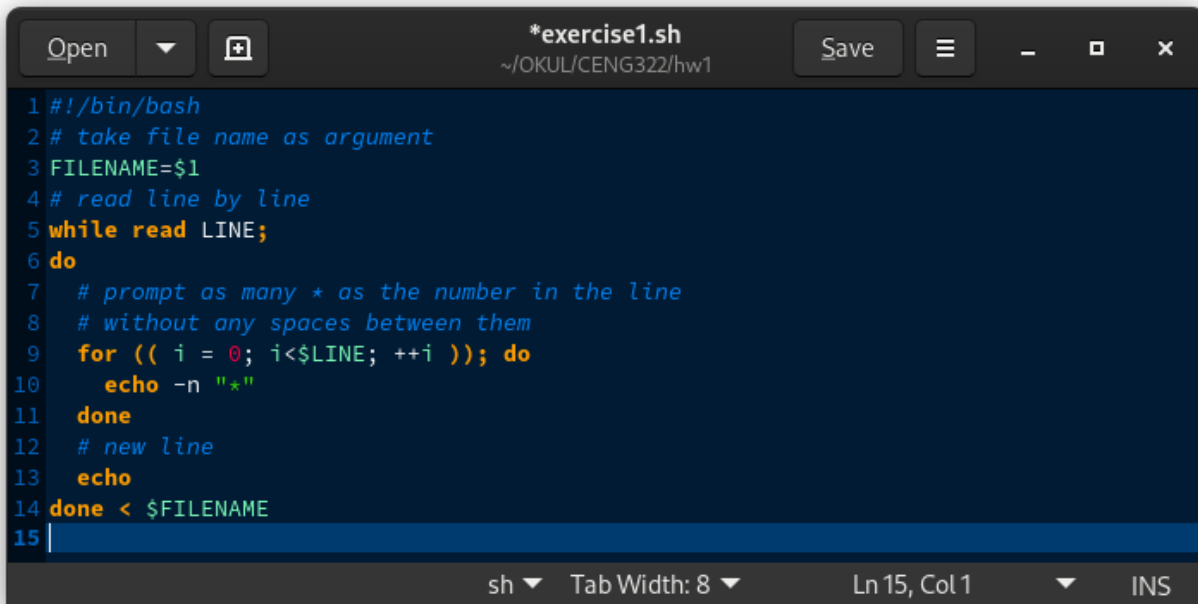


# CENG322 ASSIGNMENT1 REPORT

## Exercise 1:

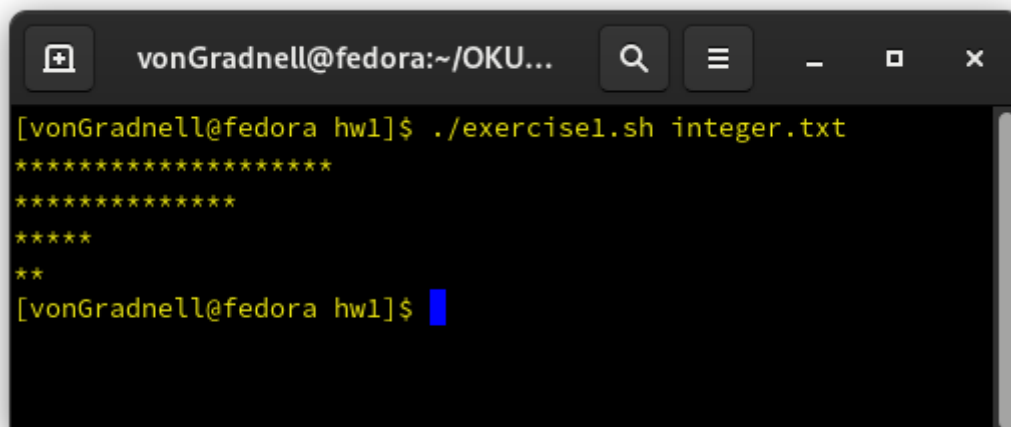
## Implementation:

A screenshot of a code editor window titled '\*exercise1.sh' with the path '~ / OKUL / CENG322 / hw1'. The editor contains a bash script with 15 lines of code. The code uses a while loop to read a file line by line, and a for loop to print asterisks based on the number of characters in each line. The status bar at the bottom shows 'sh', 'Tab Width: 8', 'Ln 15, Col 1', and 'INS'.

```
1 #!/bin/bash
2 # take file name as argument
3 FILENAME=$1
4 # read line by line
5 while read LINE;
6 do
7     # prompt as many * as the number in the line
8     # without any spaces between them
9     for (( i = 0; i<$LINE; ++i )); do
10         echo -n "*"
11     done
12     # new line
13     echo
14 done < $FILENAME
15
```

In the code, firstly I passed the argument to FILENAME variable. Then I read the file line by line and in the for loop, I prompted \* as many as the number in the line without spaces. When for loop ended, I called 'echo' command to switch the new line. As we can see in the line 14, I passed the FILENAME variable to while loop.

## Output:

A screenshot of a terminal window with the title 'vonGradnell@fedora:~/OKU...'. The prompt is '[vonGradnell@fedora hw1]\$' and the command executed is './exercise1.sh integer.txt'. The output consists of four lines of asterisks: a line of 10 asterisks, a line of 8 asterisks, a line of 5 asterisks, and a line of 2 asterisks. The prompt is now '[vonGradnell@fedora hw1]\$' with a blue cursor.

```
[vonGradnell@fedora hw1]$ ./exercise1.sh integer.txt
*****
*****
*****
**
[vonGradnell@fedora hw1]$
```

## Exercise 2:

### Implementation:

```
echo "Enter a sequence of numbers followed by 'end'"
MAX=0
VALID=true
i=1
RE='^[0-9]+$'
```

Firstly I prompted instruction and I created some useful variables.

```
# infinite loop until break
while [ $VALID ]
do
    # take input
    read NUM
```

Then I wrote a while loop for taking inputs until the user exits.

```
# check if input is 'end'
# if it is, break loop
if [ $NUM = 'end' ];
then
    break
```

In while loop, I checked if the input is equal to 'end', if it is then I broke the loop.

```
# check if input is integer
# if it is not, break loop
elif ! [[ $NUM =~ $RE ]];
then
    echo "Please enter only integer or 'end' !!"
    break
fi
```

Then I checked if the input is not an integer. If it is not an integer then I warned the user and broke the loop.

```
# if the first input is entered
# then it is max number
if [ $i -eq 1 ]
then
    MAX=$NUM
```

After the checking input, I checked if input is the first one. If input is the user's first input then I assigned to MAX variable.

```
else
    # check if input is greater
    # than max number
    # if it is, assign to max
    if [ $NUM -gt $MAX ]
    then
        MAX=$NUM
    fi
fi
```

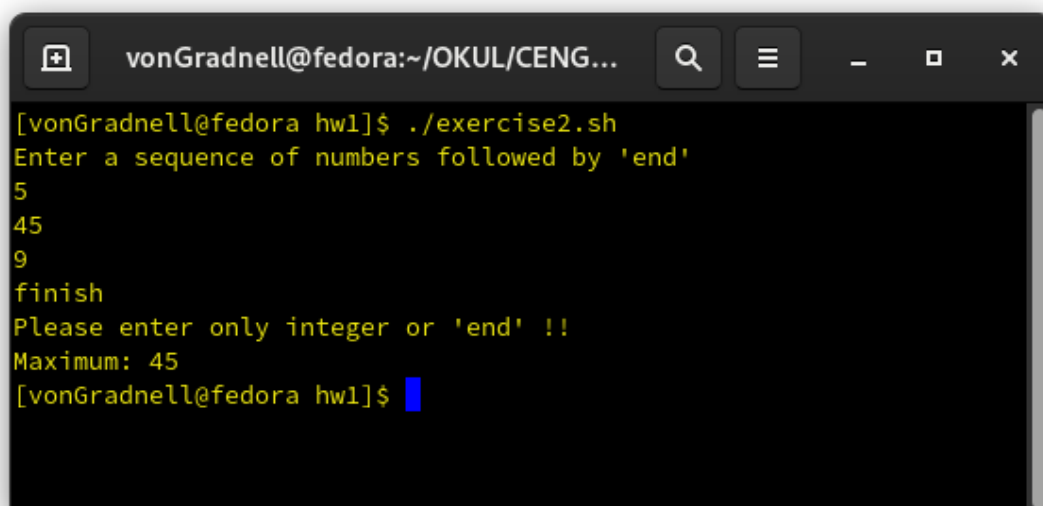
If input is not first input, then I compared the input with MAX variable. If it is greater than MAX variable, then I assigned input number to MAX.

```
# increment input number
i=$((i+1))
done

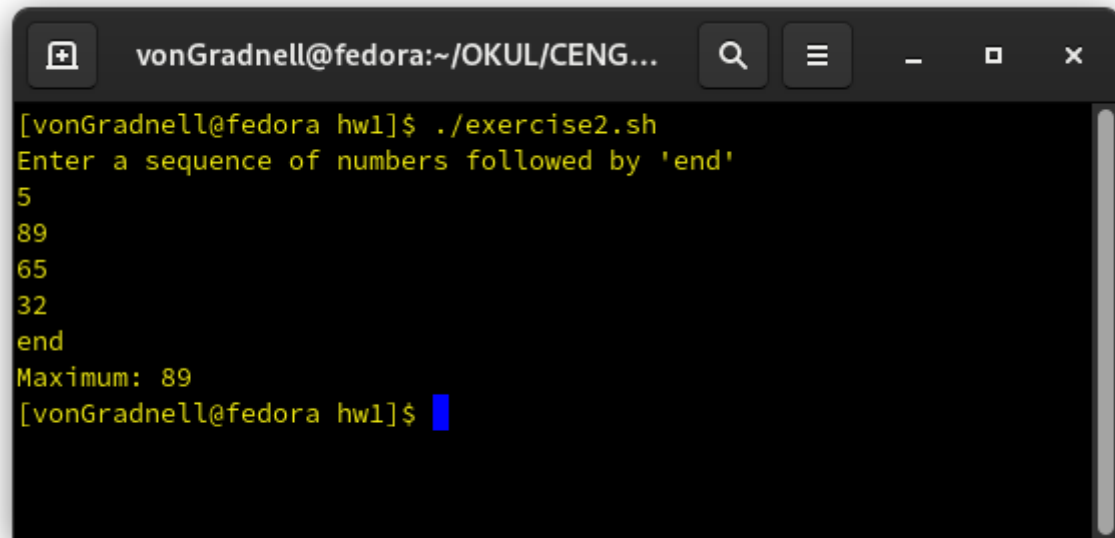
echo "Maximum: $MAX"
```

In while loop I also increment the input number to memorize how many input entered the user. After the while loop, I prompted the MAX variable.

## Outputs:

A terminal window titled 'vonGradnell@fedora:~/OKUL/CENG...' showing the execution of a script. The user enters a sequence of numbers: 5, 45, 9, and 'finish'. The script prompts for integers or 'end'. The output shows the maximum value as 45.

```
[vonGradnell@fedora hw1]$ ./exercise2.sh
Enter a sequence of numbers followed by 'end'
5
45
9
finish
Please enter only integer or 'end' !!
Maximum: 45
[vonGradnell@fedora hw1]$
```

A terminal window with a dark background and light-colored text. The window title is 'vonGradnell@fedora:~/OKUL/CENG...'. The prompt is '[vonGradnell@fedora hw1]\$'. The user enters './exercise2.sh'. The script outputs 'Enter a sequence of numbers followed by \'end\''. The user enters '5', '89', '65', '32', and 'end'. The script outputs 'Maximum: 89'. The prompt returns to '[vonGradnell@fedora hw1]\$' with a blue cursor.

```
[vonGradnell@fedora hw1]$ ./exercise2.sh
Enter a sequence of numbers followed by 'end'
5
89
65
32
end
Maximum: 89
[vonGradnell@fedora hw1]$
```

### Exercise 3:

#### Implementation:

```
DIR=""
#check if there is an argument
if [ $# -eq 0 ]
#if there is not, then working
#directory is assigned to variable
then
    DIR=$(pwd)
#if there is an argument
```

Firstly I checked if there is an argument from the user. If there is not, our directory, DIR variable, is current directory.

```
#if there is an argument
else
    #check if argument is valid
    if [ ! -d $1 ]
    #if not valid
    then
        echo "Error: '$1' not found."
        exit 1
    else
        #if valid, assign to variable
        DIR=$1
    fi
fi
```

If there is an argument, then I checked if it is valid, if there is a directory with the given name in the argument. If it is not valid then exit with error. If it is valid then assigned to variable DIR.

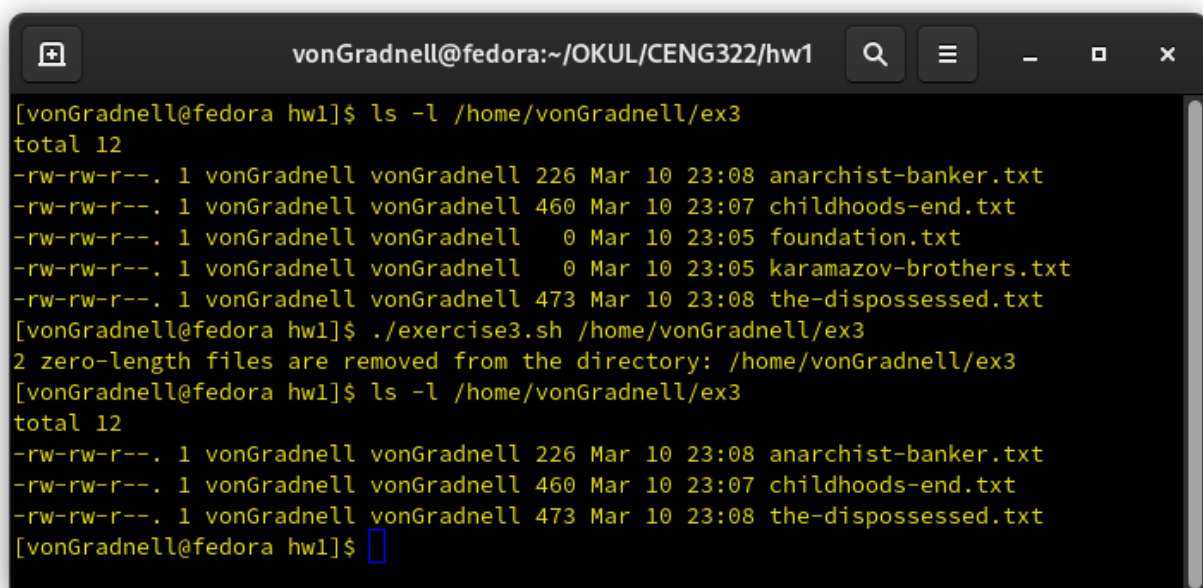
```
REMOVED=0

for FILE in $( ls $DIR ) #iterate all files in directory
do
    if [ -f $DIR/$FILE ] && [ ! -s $DIR/$FILE ] #if file exists and is empty
    then
        rm -rf $DIR/$FILE #remove the file
        REMOVED=$((REMOVED+1))
    fi
done

echo "$REMOVED zero-length files are removed from the directory: $DIR"
```

In for loop I iterated all files in given directory. If file exists and is empty I removed it and incremented REMOVED variable. Then when for loop is ended then I prompted how many files are removed from the directory.

### Outputs:



```
vonGradnell@fedora:~/OKUL/CENG322/hw1
[vonGradnell@fedora hw1]$ ls -l /home/vonGradnell/ex3
total 12
-rw-rw-r--. 1 vonGradnell vonGradnell 226 Mar 10 23:08 anarchist-banker.txt
-rw-rw-r--. 1 vonGradnell vonGradnell 460 Mar 10 23:07 childhoods-end.txt
-rw-rw-r--. 1 vonGradnell vonGradnell  0 Mar 10 23:05 foundation.txt
-rw-rw-r--. 1 vonGradnell vonGradnell  0 Mar 10 23:05 karamazov-brothers.txt
-rw-rw-r--. 1 vonGradnell vonGradnell 473 Mar 10 23:08 the-dispossessed.txt
[vonGradnell@fedora hw1]$ ./exercise3.sh /home/vonGradnell/ex3
2 zero-length files are removed from the directory: /home/vonGradnell/ex3
[vonGradnell@fedora hw1]$ ls -l /home/vonGradnell/ex3
total 12
-rw-rw-r--. 1 vonGradnell vonGradnell 226 Mar 10 23:08 anarchist-banker.txt
-rw-rw-r--. 1 vonGradnell vonGradnell 460 Mar 10 23:07 childhoods-end.txt
-rw-rw-r--. 1 vonGradnell vonGradnell 473 Mar 10 23:08 the-dispossessed.txt
[vonGradnell@fedora hw1]$
```

```
vonGradnell@fedora:~/OKUL/CENG322/hw1
[vonGradnell@fedora hw1]$ ls -l
total 20
-rw-rw-r--. 1 vonGradnell vonGradnell  0 Mar 10 23:30 bos2.txt
-rw-rw-r--. 1 vonGradnell vonGradnell  0 Mar 10 23:30 bos.txt
-rwxrwxrwx. 1 vonGradnell vonGradnell 274 Mar 10 21:11 exercise1.sh
-rwxrwxrwx. 1 vonGradnell vonGradnell 746 Mar 10 21:14 exercise2.sh
-rwxrwxrwx. 1 vonGradnell vonGradnell 656 Mar  3 00:24 exercise3.sh
-rw-rw-r--. 1 vonGradnell vonGradnell  10 Mar 10 21:48 integer.txt
drwxr-xr-x. 2 vonGradnell vonGradnell 4096 Mar 10 23:02 outputs_and_files
[vonGradnell@fedora hw1]$ ./exercise3.sh
2 zero-length files are removed from the directory: /home/vonGradnell/OKUL/CENG322/hw1
[vonGradnell@fedora hw1]$ ls -l
total 20
-rwxrwxrwx. 1 vonGradnell vonGradnell 274 Mar 10 21:11 exercise1.sh
-rwxrwxrwx. 1 vonGradnell vonGradnell 746 Mar 10 21:14 exercise2.sh
-rwxrwxrwx. 1 vonGradnell vonGradnell 656 Mar  3 00:24 exercise3.sh
-rw-rw-r--. 1 vonGradnell vonGradnell  10 Mar 10 21:48 integer.txt
drwxr-xr-x. 2 vonGradnell vonGradnell 4096 Mar 10 23:02 outputs_and_files
[vonGradnell@fedora hw1]$
```

```
vonGradnell@fedora:~/OKUL/CENG322/hw1
[vonGradnell@fedora hw1]$ ls -l
total 20
-rwxrwxrwx. 1 vonGradnell vonGradnell 274 Mar 10 21:11 exercise1.sh
-rwxrwxrwx. 1 vonGradnell vonGradnell 746 Mar 10 21:14 exercise2.sh
-rwxrwxrwx. 1 vonGradnell vonGradnell 656 Mar  3 00:24 exercise3.sh
-rw-rw-r--. 1 vonGradnell vonGradnell  10 Mar 10 21:48 integer.txt
drwxr-xr-x. 2 vonGradnell vonGradnell 4096 Mar 10 23:02 outputs_and_files
[vonGradnell@fedora hw1]$ ./exercise3.sh /home/vonGradnell/gecersiz
Error: '/home/vonGradnell/gecersiz' not found.
[vonGradnell@fedora hw1]$
```

Onur Cihangir  
250201049