Assignment 1

Part 1

Check if there is a file called test_1 in the current directory. If not, use touch to create the file. If the file exists and is not a directory, delete the file and create a directory called test_2.If the file exists and is a directory, delete the directory and create a directory called test_3.

Provide the shell commands or create a script called check_1.sh

Solution:

- osboxes@osboxes:~$ ls
  Desktop Downloads Pictures repeat.sh sizes_1.sh t.sh
  Documents Music Public seq_1.sh Templates Videos

- osboxes@osboxes:~$ find test_1
  find: ‘test_1’: No such file or directory

- osboxes@osboxes:~$ touch test_1

- osboxes@osboxes:~$ find test_1
  test_1

- osboxes@osboxes:~$ rm test_1

- osboxes@osboxes:~$ find test_1
  find: ‘test_1’: No such file or directory

- osboxes@osboxes:~$ mkdir test_2

- osboxes@osboxes:~$ ls
  Desktop Downloads Pictures repeat.sh sizes_1.sh test_2 Videos
  Documents Music Public seq_1.sh Templates t.sh

- osboxes@osboxes:~$ find test_2
  test_2

- osboxes@osboxes:~$ rm test_2
  rm: cannot remove 'test_2': Is a directory

- osboxes@osboxes:~$ rmdir test_2

- osboxes@osboxes:~$ ls
  Desktop Downloads Pictures repeat.sh sizes_1.sh t.sh
  Documents Music Public seq_1.sh Templates Videos

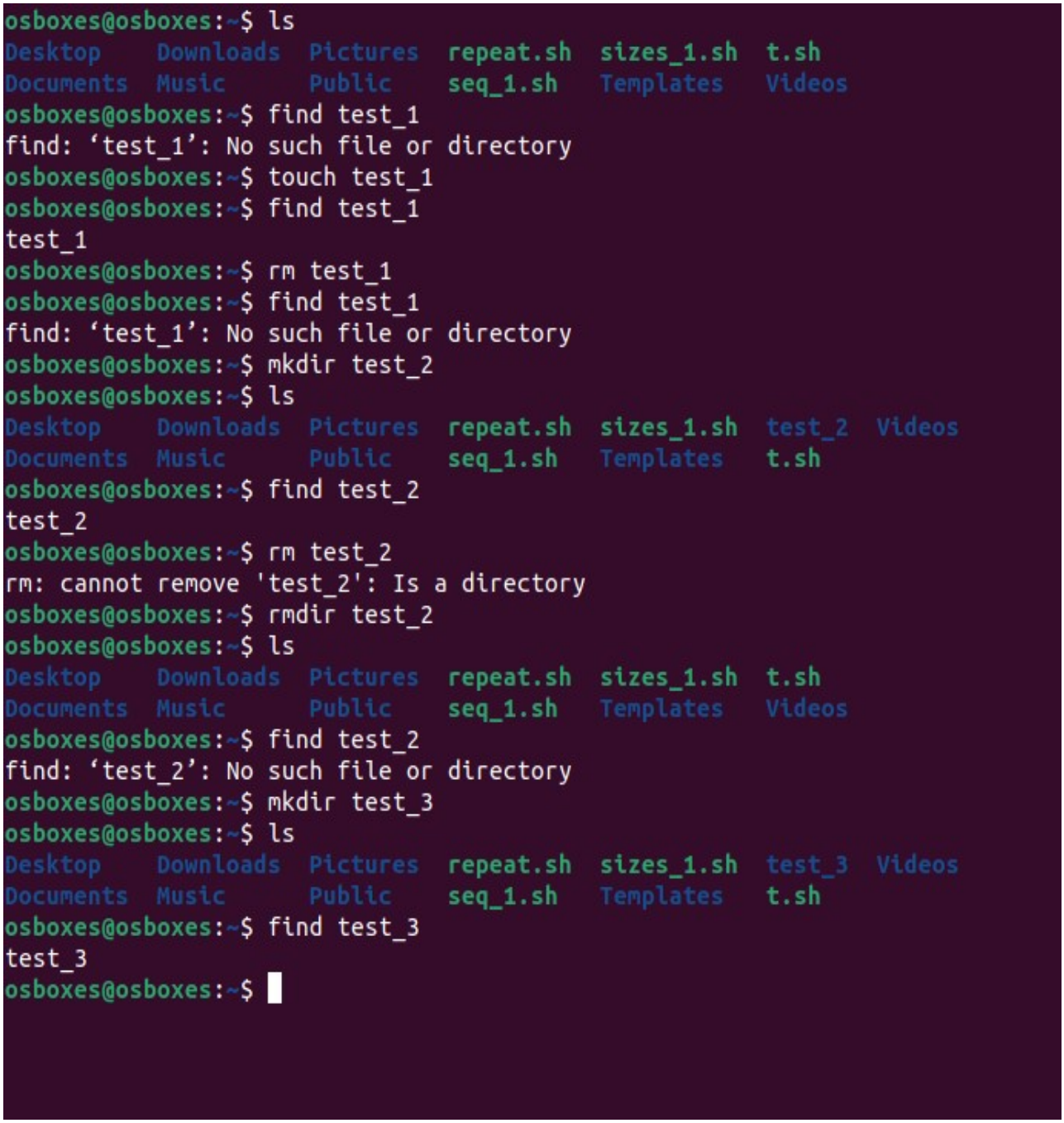
- osboxes@osboxes:~$ find test_2
  find: ‘test_2’: No such file or directory

- osboxes@osboxes:~$ mkdir test_3

- osboxes@osboxes:~$ ls
  Desktop Downloads Pictures repeat.sh sizes_1.sh test_3 Videos
  Documents Music Public seq_1.sh Templates t.sh

- osboxes@osboxes:~$ find test_3
  test_3

Screenshoot:



Part 2

Write a script called sizes_1.sh which outputs one line for each file or directory in the current working directory. Each line must contain:

1. The size of the file, or the directory contents, in kilobytes.
2. The name of the file or directory.

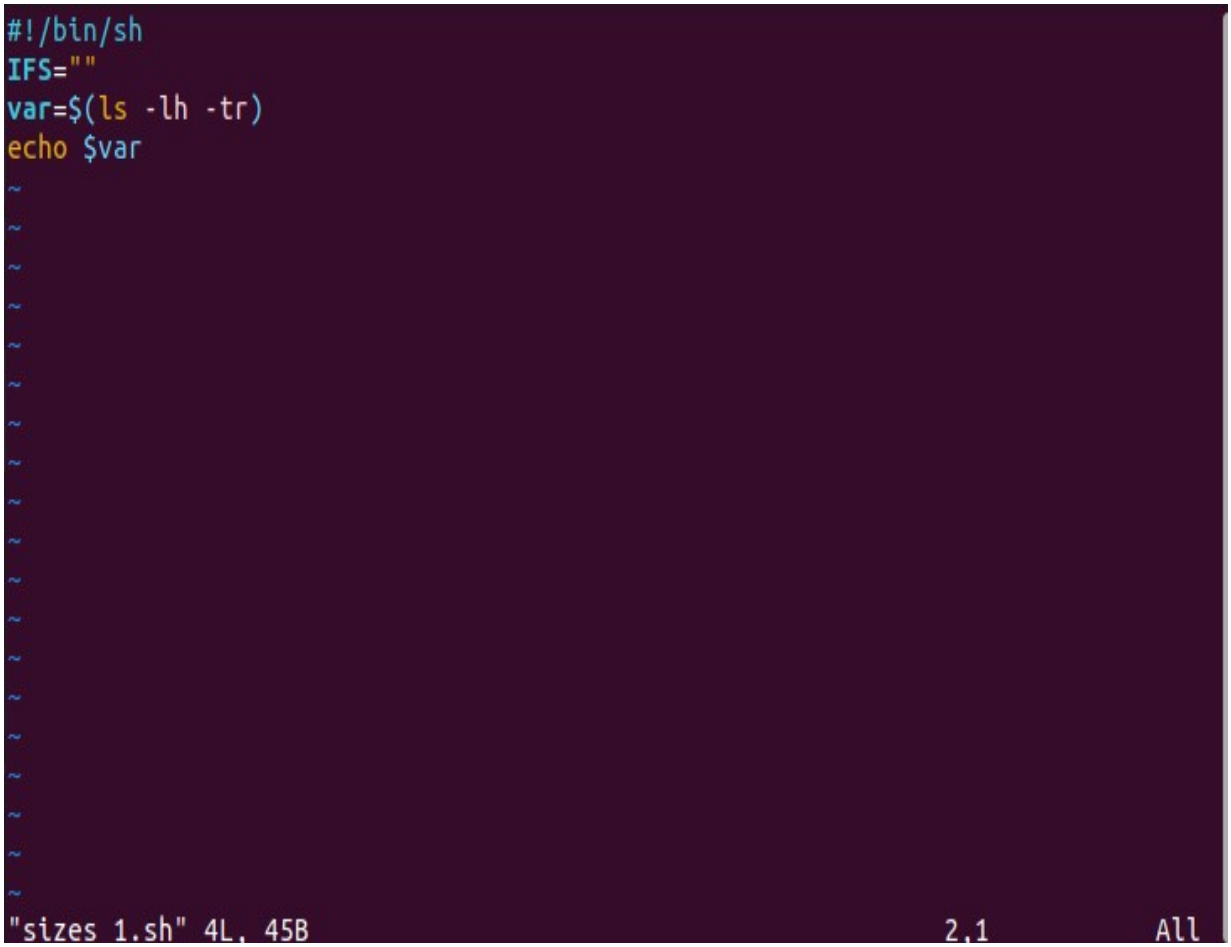
The lines ought be ordered by their last-modified date, from oldest to youngest.

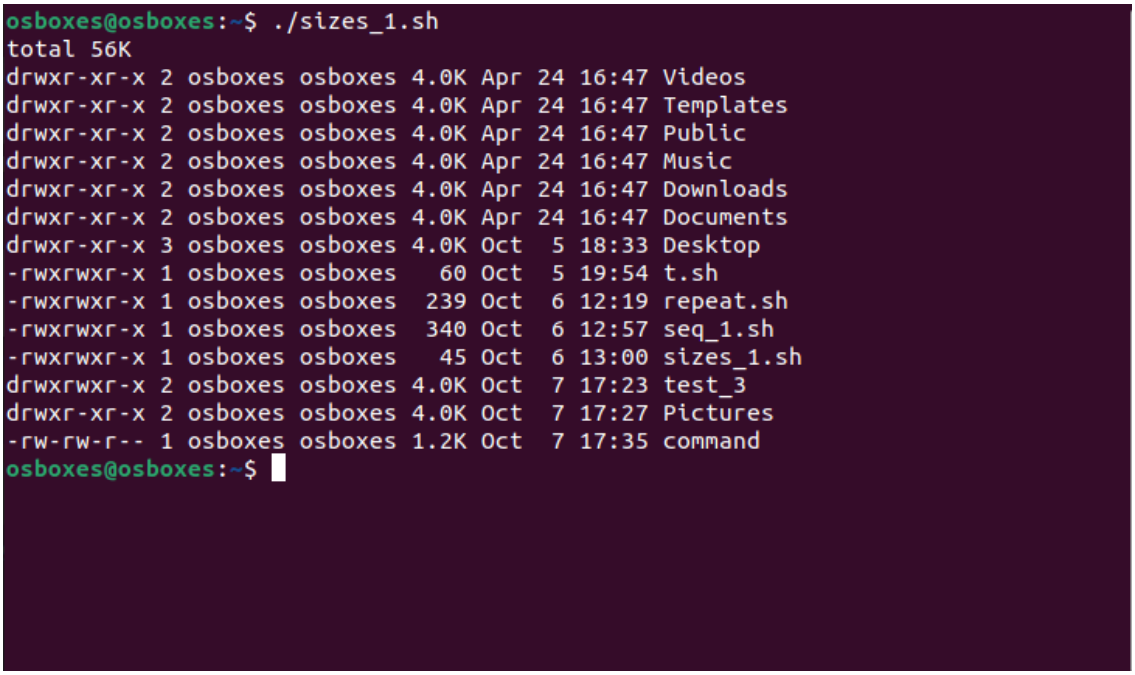
Solution:

Code for the script:

```
#!/bin/sh
IFS=""
var=$(ls -lh -tr)
echo $var
```

Screenshots of code and output:





Part 3

Write a shell function called repeat which accepts a command and (optionally) some arguments. The script then executes the command with its arguments (if they exist) once per second.

The command sleep can be used to sleep for some number of seconds.

Solution:

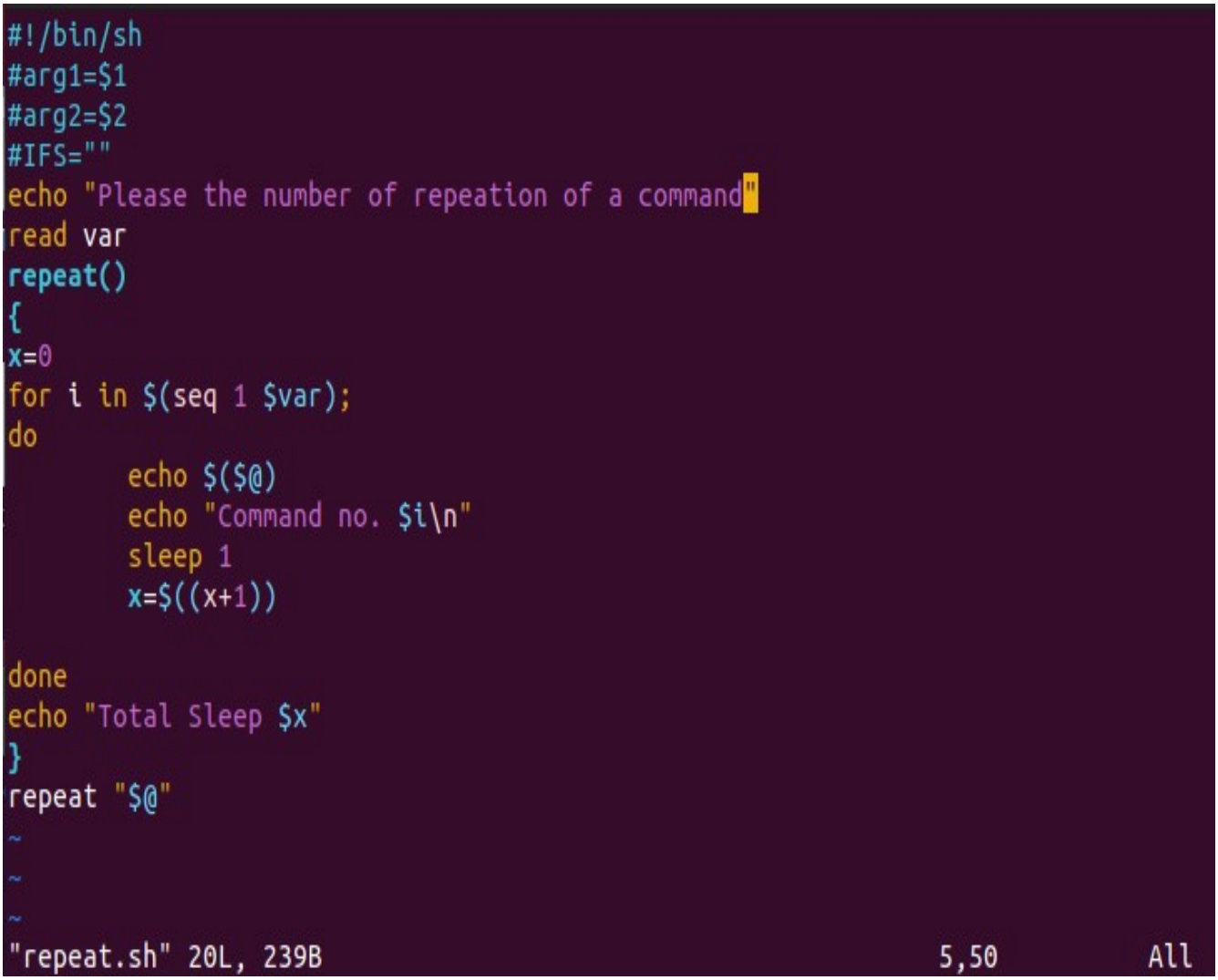
Code for the script:

```
#!/bin/sh
#arg1=$1
#arg2=$2
#IFS=""
echo "Please the number of repeation of a command"
read var
repeat()
{
x=0
for i in $(seq 1 $var);
do
        echo $($@)
        echo "Command no. $i\n"
```

```
        sleep 1
        x=$((x+1))

done
echo "Total Sleep $x"
}
repeat "$@"
```

Screenshots of code and Output:



```
osboxes@osboxes:~$ ./repeat.sh echo "Hello"
Please the number of repeation of a command
5
Hello
Command no. 1

Hello
Command no. 2

Hello
Command no. 3

Hello
Command no. 4

Hello
Command no. 5

Total Sleep 5
osboxes@osboxes:~$
```

Part 4

The command cal prints out a calendar for the current month. If you type cal 11 2020, you will get a calendar for November 2020. Create a file called seq_1.sh that takes in a number n representing a month.

When the file is run it will print out the 2020 calendar showing the months from n until the end of the year, i.e. December. If no number is supplied, it will print out the calendar for the even months of the year 2020, i.e. Feb, Apr, Jun and so on.

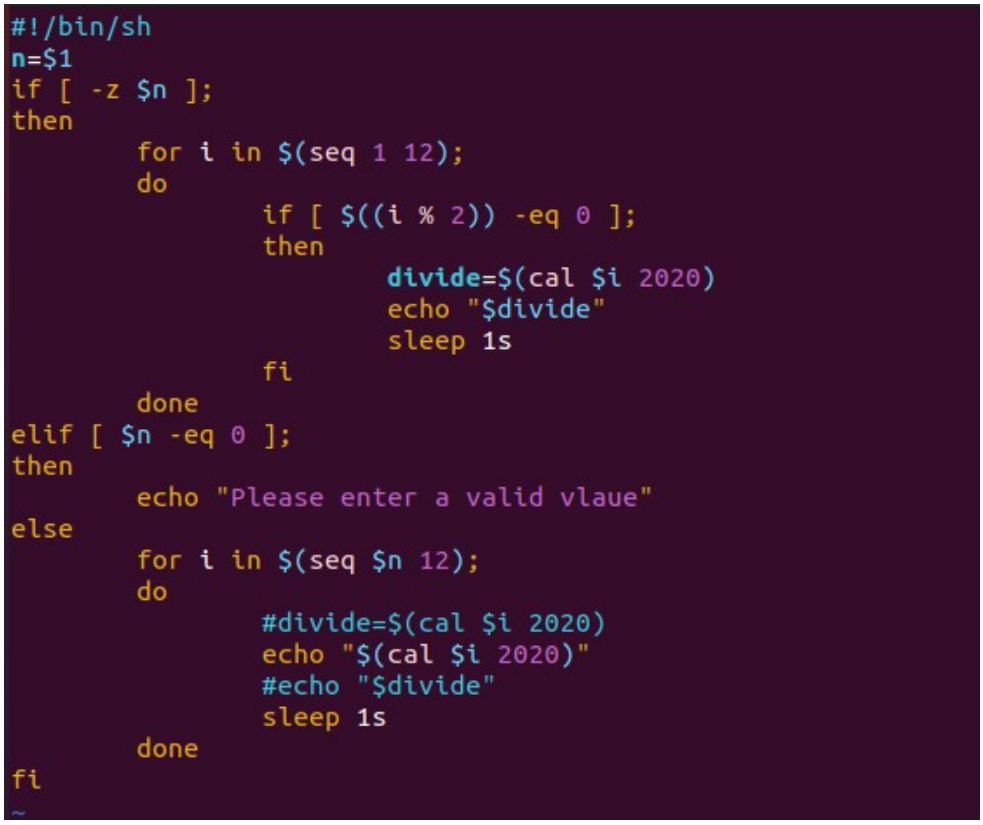
Solution:

Code for the scipt:

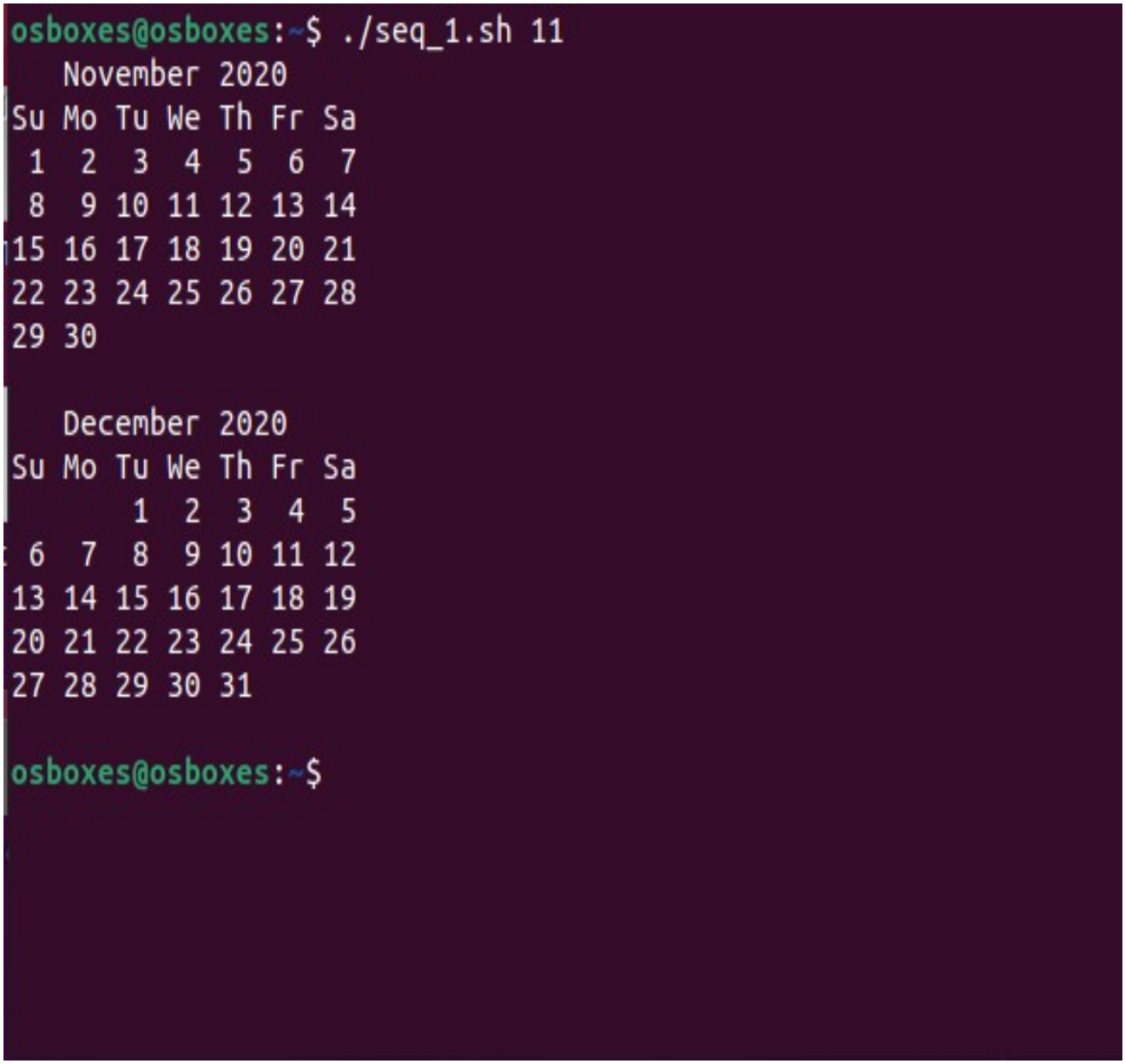
```
#!/bin/sh
n=$1
if [ -z $n ];
then
        for i in $(seq 1 12);
```

```
        do
                if [ $((i % 2)) -eq 0 ];
                then
                        divide=$(cal $i 2020)
                        echo "$divide"
                        sleep 1s
                fi
        done
elif [ $n -eq 0 ];
then
        echo "Please enter a valid vlaue"
else
        for i in $(seq $n 12);
        do
                #divide=$(cal $i 2020)
                echo "$(cal $i 2020)"
                #echo "$divide"
                sleep 1s
        done
fi
```

Screenshots od code and outputs:



- **Output when there is some vlaue of n:**



```
sboxes@osboxes:~$ ./seq_1.sh 5
     May 2020
u Mo Tu We Th Fr Sa
                1  2
3  4  5  6  7  8  9
0 11 12 13 14 15 16
7 18 19 20 21 22 23
4 25 26 27 28 29 30
1
     June 2020
u Mo Tu We Th Fr Sa
   1  2  3  4  5  6
7  8  9 10 11 12 13
4 15 16 17 18 19 20
1 22 23 24 25 26 27
8 29 30

     July 2020
u Mo Tu We Th Fr Sa
         1  2  3  4
5  6  7  8  9 10 11
2 13 14 15 16 17 18
9 20 21 22 23 24 25
6 27 28 29 30 31

   August 2020
u Mo Tu We Th Fr Sa
                   1
2  3  4  5  6  7  8
9 10 11 12 13 14 15
6 17 18 19 20 21 22
3 24 25 26 27 28 29
0 31
```

```
    September 2020
Su  Mo  Tu  We  Th  Fr  Sa
          1   2   3   4   5
 6   7   8   9  10  11  12
13  14  15  16  17  18  19
20  21  22  23  24  25  26
27  28  29  30

     October 2020
Su  Mo  Tu  We  Th  Fr  Sa
                  1   2   3
 4   5   6   7   8   9  10
11  12  13  14  15  16  17
18  19  20  21  22  23  24
25  26  27  28  29  30  31

    November 2020
Su  Mo  Tu  We  Th  Fr  Sa
 1   2   3   4   5   6   7
 8   9  10  11  12  13  14
15  16  17  18  19  20  21
22  23  24  25  26  27  28
29  30

    December 2020
Su  Mo  Tu  We  Th  Fr  Sa
          1   2   3   4   5
 6   7   8   9  10  11  12
13  14  15  16  17  18  19
20  21  22  23  24  25  26
27  28  29  30  31

osboxes@osboxes:~$
```

- **Output when there is no argument to the script**

```
osboxes@osboxes:~$ ./seq_1.sh
   February 2020
Su Mo Tu We Th Fr Sa
                   1
 2  3  4  5  6  7  8
 9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29

     April 2020
Su Mo Tu We Th Fr Sa
           1  2  3  4
 5  6  7  8  9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30

     June 2020
Su Mo Tu We Th Fr Sa
    1  2  3  4  5  6
 7  8  9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30
```

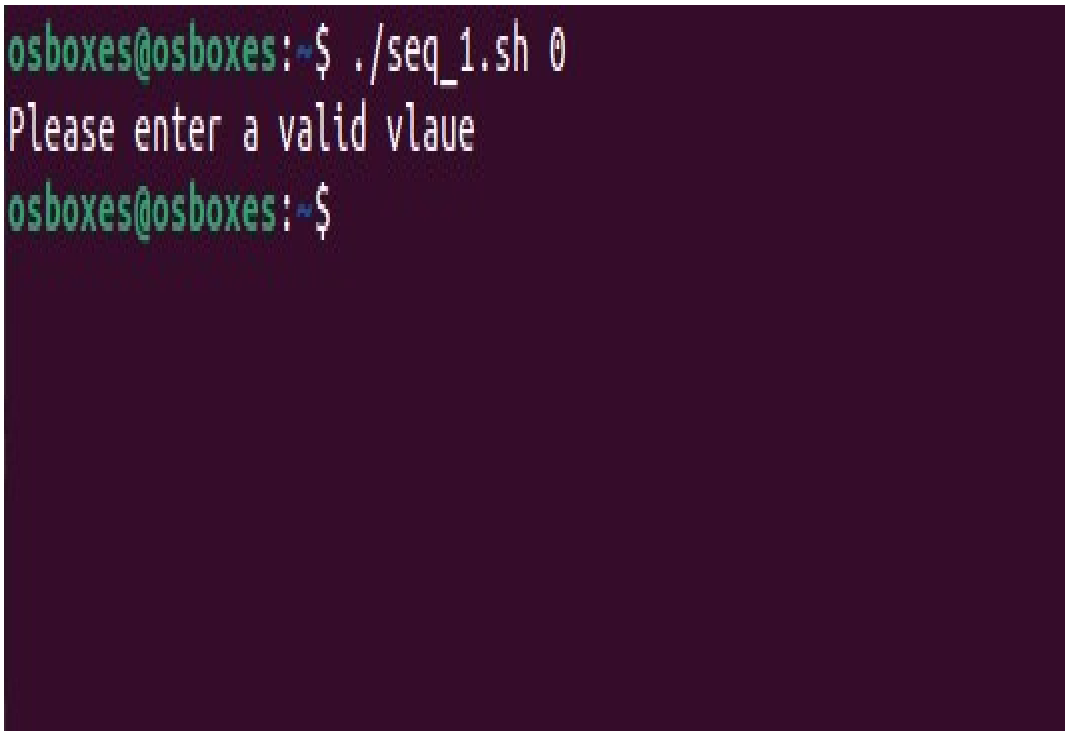
```
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30

     June 2020
Su Mo Tu We Th Fr Sa
    1  2  3  4  5  6
 7  8  9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30

    August 2020
Su Mo Tu We Th Fr Sa
                   1
 2  3  4  5  6  7  8
 9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29
30 31
    October 2020
Su Mo Tu We Th Fr Sa
            1  2  3
 4  5  6  7  8  9 10
11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30 31

   December 2020
Su Mo Tu We Th Fr Sa
       1  2  3  4  5
 6  7  8  9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31
```

- **Output when 0 is passed as an arrgument**



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