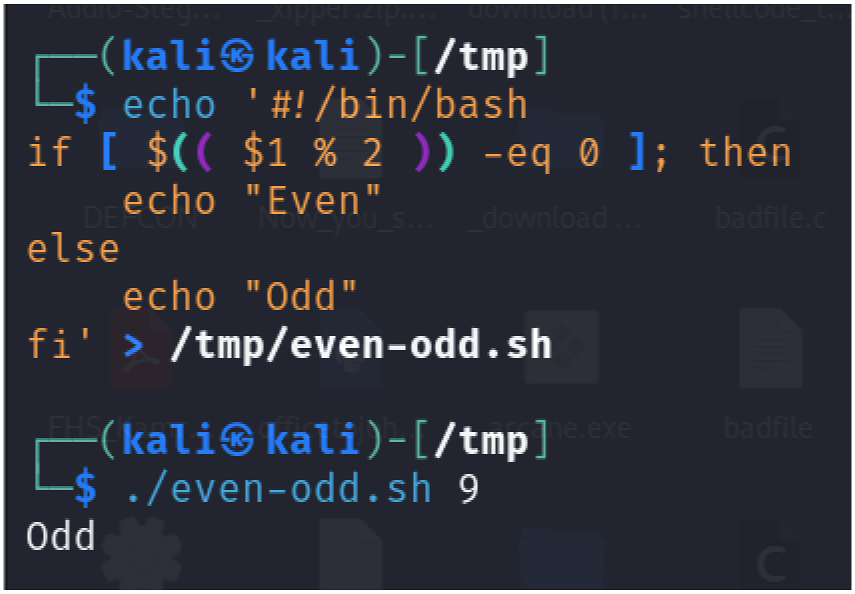
Lab Task 2 Manual

Task 1

Write a bash script that takes a number as an argument and prints whether the number is even or odd. The output should be “True” or “False”. Case matters. The file must be inside /tmp/ directory and named as even-odd.sh .

```
echo '#!/bin/bash
if [ $(( $1 % 2 )) -eq 0 ]; then
    echo "Even"
else
    echo "Odd"
fi' > /tmp/even-odd.sh
```

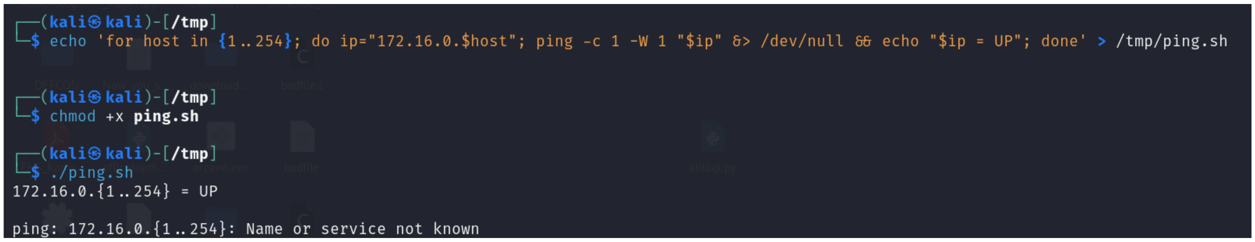


```
┌──(kali㉿kali)-[/tmp]
└─$ echo '#!/bin/bash
if [ $(( $1 % 2 )) -eq 0 ]; then
    echo "Even"
else
    echo "Odd"
fi' > /tmp/even-odd.sh

┌──(kali㉿kali)-[/tmp]
└─$ ./even-odd.sh 9
Odd
```

Task 2

Using a for loop in bash, try and ping the subnet “172.16.0.0/24” and print the IP addresses that are up. Output should be like: “172.16.0.0 = UP”
Hint: Use ping -c 1 <ip-address> to ping the IP address once.
The file must be inside /tmp/ directory and named as
ping.sh .

```
┌──(kali㉿kali)-[/tmp]
└─$ ping 172.16.0.0/24
ping: 172.16.0.0/24: Name or service not known

┌──(kali㉿kali)-[/tmp]
└─$ echo 'for host in {1..254}; do ip="172.16.0.$host"; ping -c

┌──(kali㉿kali)-[/tmp]
└─$ chmod +x ping.sh

┌──(kali㉿kali)-[/tmp]
└─$ ./ping.sh
172.16.0.{1..254} = UP

ping: 172.16.0.{1..254}: Name or service not known
```

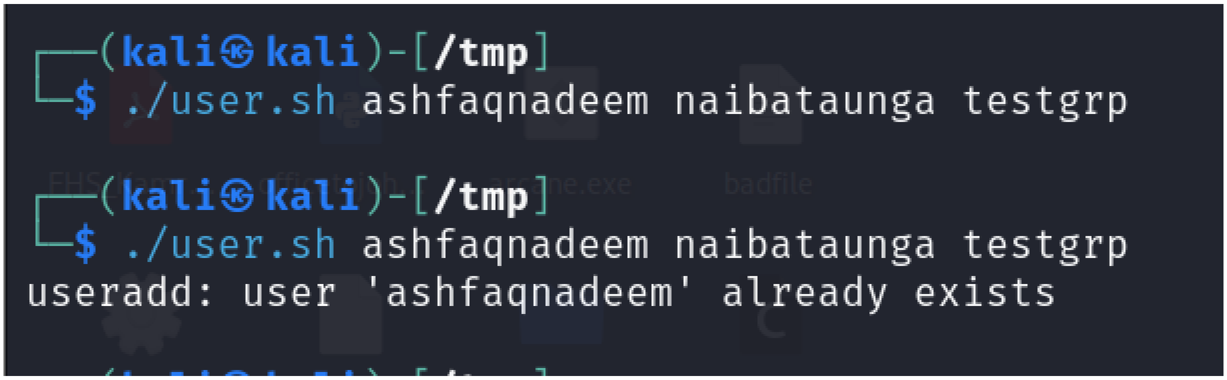


```
┌──(kali㉿kali)-[/tmp]
└─$ echo 'for host in {1..254}; do ip="172.16.0.$host"; ping -c 1 -W 1 "$ip" &> /dev/null && echo "$ip = UP"; done' > /tmp/ping.sh

┌──(kali㉿kali)-[/tmp]
└─$ chmod +x ping.sh

┌──(kali㉿kali)-[/tmp]
└─$ ./ping.sh
172.16.0.{1..254} = UP

ping: 172.16.0.{1..254}: Name or service not known
```

Task 3

Create a function called create_user that takes two arguments: username and password. The function should create a user with the given username and password. Also, write another function called add_to_group that takes two arguments: username and groupname. The function should add the user to the given group. The file must be inside /tmp/ directory and named as user.sh . The username, password and groupname should be provided from the command line as arguments to the script.

```bash
#!/bin/bash

create_user() { sudo useradd -m -p $(openssl passwd -1 $2) $1;
add_to_group() { sudo usermod -aG $2 $1; }
create_user $1 $2; add_to_group $1 $3
```

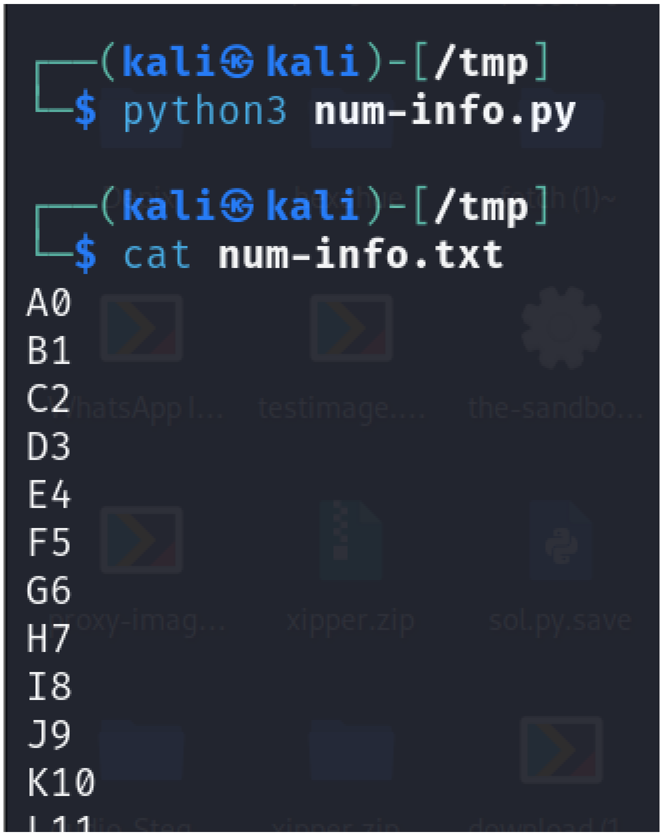


```
┌──(kali㉿kali)-[/tmp]
└─$ ./user.sh ashfaqnadeem naibataunga testgrp

┌──(kali㉿kali)-[/tmp]
└─$ ./user.sh ashfaqnadeem naibataunga testgrp
useradd: user 'ashfaqnadeem' already exists
```

Task 4

Part 1: Write a script (can also be in Python) that will generate a file called (num-info.txt) that contains numbers from 0-1000 and each number is prefixed with an alphabet (only Uppercase) and the next number with next alphabet. (Re-loop after 26).

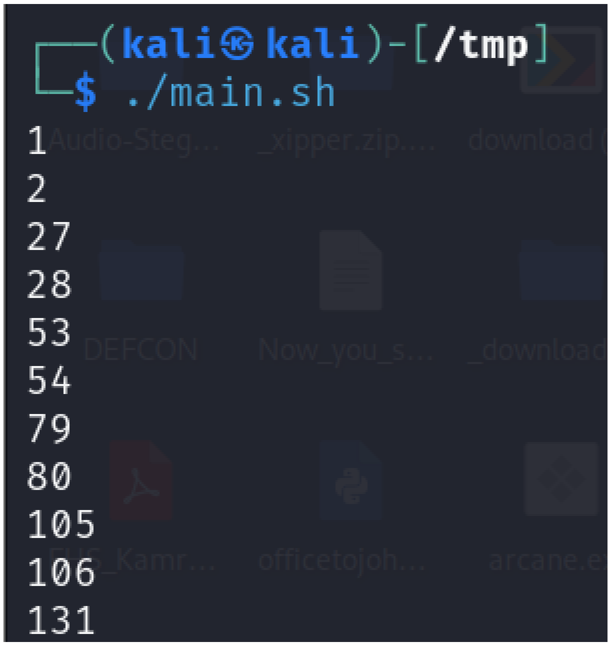
```python
with open("/tmp/num-info.txt", "w") as f: f.write("\n".join(f"{
```



```
┌──(kali㉿kali)-[/tmp]
└─$ python3 num-info.py

┌──(kali㉿kali)-[/tmp]
└─$ cat num-info.txt
A0
B1
C2
D3
E4
F5
G6
H7
I8
J9
K10
L11
```

Extract only the numbers that are prefixed with B and C . Storing both in seperate files B-num.txt and C-num.txt respectively. [Must be in Bash]

```
#!/bin/bash
grep -o -E 'B[0-9]+' /tmp/num-info.txt | cut -c 2- > /tmp/B-num
grep -o -E 'C[0-9]+' /tmp/num-info.txt | cut -c 2- > /tmp/C-num
echo "$(cat /tmp/B-num.txt /tmp/C-num.txt | sort -n | paste -s
```



```
┌──(kali㉿kali)-[/tmp]
└─$ ./main.sh
1
2
27
28
53
54
79
80
105
106
131
```