

Operating Systems – OS

Lab Task 06 (OS-006)



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Submitted to:

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Faculty of Computing

Tasks

Solution:

```

muhammadroshaanidrees56177@Ubuntu: ~/lab06
muhammadroshaanidrees56177@Ubuntu:~$ cd lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ vi Roshaan
muhammadroshaanidrees56177@Ubuntu:~/lab06$ ./Roshaan
bash: ./Roshaan: Permission denied
muhammadroshaanidrees56177@Ubuntu:~/lab06$ chmod 777 Roshaan
muhammadroshaanidrees56177@Ubuntu:~/lab06$ ./Roshaan
Knowledge is power
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[43m lab06"
lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[35m lab06"
lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "<033[30m lab06"
<033[30m lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[30m lab06"
lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[31m lab06"
lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[32m lab06"
lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[33m lab06"
lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[34m lab06"
lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[35m lab06"
lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[36m lab06"
lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[37m lab06"
lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[38m lab06"
lab06

muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[39m lab06"
lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[40m lab06"
lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[40m lab06"
lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[41m lab06"
lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ echo -e "\033[5m lab06"

:~/lab06$ who
muhammadroshaanidrees56177 tty2          2025-09-30 11:14 (tty2)
muhammadroshaanidrees56177@Ubuntu:~/lab06$ who am i
muhammadroshaanidrees56177@Ubuntu:~/lab06$ whoami
muhammadroshaanidrees56177

```

```

muhammadroshaanidrees56177@Ubuntu: ~/lab06$ uname
Linux
muhammadroshaanidrees56177@Ubuntu: ~/lab06$ uname -n
Ubuntu
muhammadroshaanidrees56177@Ubuntu: ~/lab06$ uname -r
6.8.0-83-generic
muhammadroshaanidrees56177@Ubuntu: ~/lab06$ uname -v
#83~22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Tue Sep  9 18:19:47 UTC 2
muhammadroshaanidrees56177@Ubuntu: ~/lab06$ uname -m
x86_64
muhammadroshaanidrees56177@Ubuntu: ~/lab06$ uname -p
x86_64
muhammadroshaanidrees56177@Ubuntu: ~/lab06$ uname -i
x86_64
muhammadroshaanidrees56177@Ubuntu: ~/lab06$ uname -o
GNU/Linux
muhammadroshaanidrees56177@Ubuntu: ~/lab06$ uname -a
Linux Ubuntu 6.8.0-83-generic #83~22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Tue Sep  9 18:19:47 UTC 2 x86_64 x86_64 x86_64 GNU/Linux
muhammadroshaanidrees56177@Ubuntu: ~/lab06$ touch lab06sort.txt

```

```

muhammadroshaanidrees56177@Ubuntu: ~/lab06$ cat lab06sort.txt
A
Z
X
C
V
B
N
M
L
K
J
H
G
F
D
S
Q
W
E
R
T
Y
U
I
O
P
0
8
9
6

```

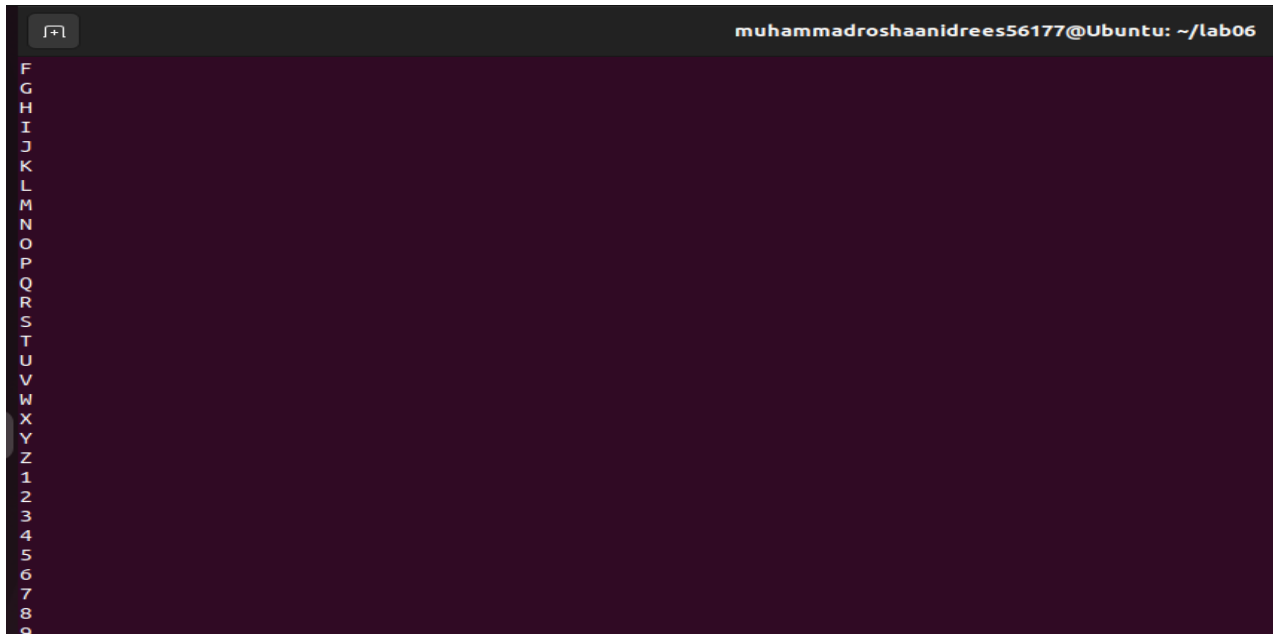
```

muhammadroshaanidrees56177@Ubuntu: ~/lab06$ sort lab06sort.txt
7
5
3
4
2
1
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O

```

```
muhammadroshaanidrees56177@Ubuntu: ~/lab06
P
Q
R
S
T
U
V
W
X
Y
Z
muhammadroshaanidrees56177@Ubuntu:~/lab06$ sort -r lab06sort.txt
Z
Y
X
W
V
U
T
S
R
Q
P
O
N
M
L
K
J
I
H
```

```
muhammadroshaanidrees56177@Ubuntu: ~/lab06
G
F
E
D
C
B
A
9
8
7
6
5
4
3
2
1
0
muhammadroshaanidrees56177@Ubuntu:~/lab06$ sort -n lab06sort.txt
0
A
B
C
D
E
F
G
H
I
J
K
L
```

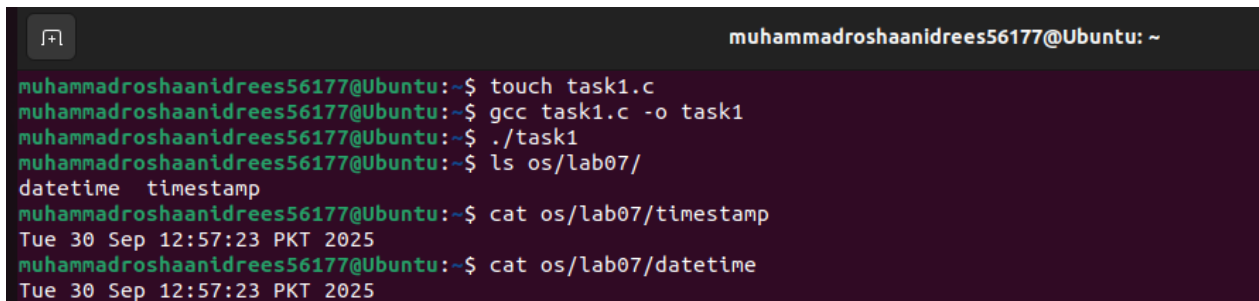


```
muhammadroshaanidrees56177@Ubuntu: ~/lab06
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z
1
2
3
4
5
6
7
8
9
```

Lab-Tasks

Task 01

Solution:



```
muhammadroshaanidrees56177@Ubuntu: ~
muhammadroshaanidrees56177@Ubuntu:~$ touch task1.c
muhammadroshaanidrees56177@Ubuntu:~$ gcc task1.c -o task1
muhammadroshaanidrees56177@Ubuntu:~$ ./task1
muhammadroshaanidrees56177@Ubuntu:~$ ls os/lab07/
datetime  timestamp
muhammadroshaanidrees56177@Ubuntu:~$ cat os/lab07/timestamp
Tue 30 Sep 12:57:23 PKT 2025
muhammadroshaanidrees56177@Ubuntu:~$ cat os/lab07/datetime
Tue 30 Sep 12:57:23 PKT 2025
```



```
task1.c
~/
1 #include <stdlib.h>
2
3 int main(){
4
5     system("mkdir os");
6     system("mkdir os/lab07");
7     system("date > os/lab07/timestamp");
8     system("cp os/lab07/timestamp os/lab07/datetime");
9
10    return 0;
11 }
```

Task 02

Solution:

```
muhammadroshaanidrees56177@Ubuntu: ~  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e "\033[1m Hello World"  
Hello World  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e "\033[5m Blink"  
Blink  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e "\033[0m Hello World"  
Hello World  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e "\033[31m Hello World"  
Hello World  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e "\033[32m Hello World"  
Hello World  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e "\033[33m Hello World"  
Hello World  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e "\033[34m Hello World"  
Hello World  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e "\033[35m Hello World"  
Hello World  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e "\033[36m Hello World"  
Hello World  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e -n "\033[0m"  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e -n "\033[0m "  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e "\033[41m Hello World"  
ello World  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e "\033[41m Hello World"  
Hello World  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e "\033[42m Hello World"  
Hello World  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e "\033[43m Hello World"  
Hello World  
muhammadroshaanidrees56177@Ubuntu:~$ echo -e "\033[0m Hello World"  
Hello World
```

Task 03

Solution:

```
muhammadroshaanidrees56177@Ubuntu:~$ ls /lib/modules  
6.8.0-40-generic 6.8.0-79-generic 6.8.0-83-generic 6.8.0-84-generic  
muhammadroshaanidrees56177@Ubuntu:~$ uname -r  
6.8.0-83-generic
```

Task 04

Solution:

```
muhammadroshaanidrees56177@Ubuntu:~$ uname -r
6.8.0-83-generic
muhammadroshaanidrees56177@Ubuntu:~$ uname
Linux
muhammadroshaanidrees56177@Ubuntu:~$ uname -n
Ubuntu
muhammadroshaanidrees56177@Ubuntu:~$ uname -r
6.8.0-83-generic
muhammadroshaanidrees56177@Ubuntu:~$ uname -v
#83-22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Tue Sep  9 18:19:47 UTC 2
muhammadroshaanidrees56177@Ubuntu:~$ uname -m
x86_64
muhammadroshaanidrees56177@Ubuntu:~$ uname -p
x86_64
muhammadroshaanidrees56177@Ubuntu:~$ uname -i
x86_64
muhammadroshaanidrees56177@Ubuntu:~$ uname -o
GNU/Linux
muhammadroshaanidrees56177@Ubuntu:~$ uname -a
Linux Ubuntu 6.8.0-83-generic #83-22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Tue Sep  9 18:19:47 UTC 2 x86_64 x86_64 x86_64 GNU/Linux
```

Task 05

Solution:

```
muhammadroshaanidrees56177@Ubuntu: ~/lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ cat>lab06sort.txt
A
Z
X
C
V
B
N
M
L
K
J
H
G
F
D
S
Q
W
E
R
T
Y
U
I
O
P
0
8
9
6
```

```
muhammadroshaanidrees56177@Ubuntu: ~/lab06
7
5
3
4
2
1muhammadroshaanidrees56177@Ubuntu:~/lab06$ sort lab06sort.txt
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
```

```
muhammadroshaanidrees56177@Ubuntu: ~/lab06
P
Q
R
S
T
U
V
W
X
Y
Z
muhammadroshaanidrees56177@Ubuntu:~/lab06$ sort -r lab06sort.txt
Z
Y
X
W
V
U
T
S
R
Q
P
O
N
M
L
K
J
I
H
```



```
muhammadroshaanidrees56177@Ubuntu: ~/lab06
G
F
E
D
C
B
A
9
8
7
6
5
4
3
2
1
0
muhammadroshaanidrees56177@Ubuntu:~/lab06$ sort -n lab06sort.txt
0
A
B
C
D
E
F
G
H
I
J
K
L
```

```
muhammadroshaanidrees56177@Ubuntu: ~/lab06
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z
1
2
3
4
5
6
7
8
9
```

```
muhammadroshaanidrees56177@Ubuntu: ~/lab06
muhammadroshaanidrees56177@Ubuntu:~/lab06$ sort -f lab06sort.txt
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
```

```
muhammadroshaanidrees56177@Ubuntu: ~/lab06
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z
```

Task 06**Solution:**

```

muhammadroshaanidrees56177@Ubuntu:~$ touch twocol.txt
muhammadroshaanidrees56177@Ubuntu:~$ cat > twocol.txt << EOF
> 12 Operation Payback
> 6 Network Security
> 14 Hacking is fun
> 7 Tiger lives in jungle
> 13 Pakistan will win today
> EOF
muhammadroshaanidrees56177@Ubuntu:~$ sort -n twocol.txt
6 Network Security
7 Tiger lives in jungle
12 Operation Payback
13 Pakistan will win today
14 Hacking is fun
muhammadroshaanidrees56177@Ubuntu:~$ sort -k 2 twocol.txt
14 Hacking is fun
6 Network Security
12 Operation Payback
13 Pakistan will win today
7 Tiger lives in jungle

```

Task 07**Solution:**

```

muhammadroshaanidrees56177@Ubuntu:~$ ls
Desktop  lab04  Music  Public  task1.c  Videos
Documents lab05  os      snap    Templates
Downloads lab06  Pictures task1    twocol.txt
muhammadroshaanidrees56177@Ubuntu:~$ cat >twocol.txt >new
12 Operation Payback
6 Network Security
14 Hacking is fun
7 Tiger lives in jungle
13 Pakistan will win today
muhammadroshaanidrees56177@Ubuntu:~$ cat new
12 Operation Payback
6 Network Security
14 Hacking is fun
7 Tiger lives in jungle
13 Pakistan will win today
muhammadroshaanidrees56177@Ubuntu:~$ date>new
muhammadroshaanidrees56177@Ubuntu:~$ date >new

```

```
muhammadroshaanidrees56177@Ubuntu: ~  
muhammadroshaanidrees56177@Ubuntu:~$ ls | sort -r  
Videos  
twocol.txt  
Templates  
task1.c  
task1  
snap  
Public  
Pictures  
os  
new  
Music  
lab06  
lab05  
lab04  
Downloads  
Documents  
Desktop  
muhammadroshaanidrees56177@Ubuntu:~$ ls | sort -r >>new  
muhammadroshaanidrees56177@Ubuntu:~$ ls  
Desktop  lab04  Music  Pictures  task1  twocol.txt  
Documents lab05  new    Public    task1.c  Videos  
Downloads lab06  os     snap      Templates
```
