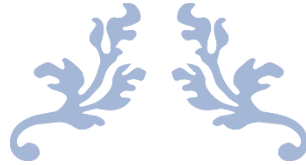




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LAB 6



Name : Muhammad Hammad

Sap id : 56765

Course : Operating System

Section: SE 5-2

Presented to :

Sir. Shehzad Ahmed



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During Lab work :

```
hammad56765@Ubuntu: ~  
hammad56765@Ubuntu:~$ mkdir lab06  
hammad56765@Ubuntu:~$ cd lab06  
hammad56765@Ubuntu:~/lab06$ vi first  
hammad56765@Ubuntu:~/lab06$ ./first  
bash: ./first: Permission denied  
hammad56765@Ubuntu:~/lab06$ chmod 777 first  
hammad56765@Ubuntu:~/lab06$ ./first  
knowledge is power  
hammad56765@Ubuntu:~/lab06$ echo -3 "\033[43m lab06"  
-3 \033[43m lab06  
hammad56765@Ubuntu:~/lab06$ echo -e "\033[73m lab06"  
lab06  
hammad56765@Ubuntu:~/lab06$ echo -e "\033[43m lab06"  
lab06  
hammad56765@Ubuntu:~/lab06$ echo -e "\033[40m lab06"  
lab06  
hammad56765@Ubuntu:~/lab06$ echo -e "\033[47m lab06"  
lab06  
hammad56765@Ubuntu:~/lab06$ echo -e "\031[40m lab06"  
[40m lab06  
hammad56765@Ubuntu:~/lab06$ echo -e "\033[5m lab06"  
  
hammad56765@Ubuntu:~/lab06$ who  
hammad56765 tty2          2025-09-30 11:19 (tty2)  
hammad56765@Ubuntu:~/lab06$ whoami  
hammad56765  
hammad56765@Ubuntu:~/lab06$ uname -n  
uname-n: command not found  
hammad56765@Ubuntu:~/lab06$ uname -n  
Ubuntu  
hammad56765@Ubuntu:~/lab06$ uname -r  
6.8.0-40-generic  
hammad56765@Ubuntu:~/lab06$ uname -v  
#40~22.04.3-Ubuntu SMP PREEMPT_DYNAMIC Tue Jul 30 17:30:19 UTC 2  
hammad56765@Ubuntu:~/lab06$ uname -m  
x86_64  
hammad56765@Ubuntu:~/lab06$ uname -p  
x86_64  
hammad56765@Ubuntu:~/lab06$ uname -i  
x86_64  
hammad56765@Ubuntu:~/lab06$ uname -o  
GNU/Linux
```



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```
hammad56765@Ubuntu:~/lab06$ uname -p
x86_64
hammad56765@Ubuntu:~/lab06$ touch lab6.txt
hammad56765@Ubuntu:~/lab06$ cat>lab6.txt
Hammad
Shameel
Anees
Ahmed
asad
Ahmed
Sir Shehzad
Hamza Hashmi
hammad56765@Ubuntu:~/lab06$ sort lab6.txt
Ahmed
Ahmed
Anees
asad
Hammad
Hamza Hashmi
Shameel
Sir Shehzad
hammad56765@Ubuntu:~/lab06$ sort -r lab6.txt
Sir Shehzad
Shameel
hammad56765@Ubuntu:~/lab06$ sort -r lab6.txt
Sir Shehzad
Shameel
Hamza Hashmi
Hammad
asad
Anees
Ahmed
Ahmed
hammad56765@Ubuntu:~/lab06$ sort -f lab6.txt
Ahmed
Ahmed
Anees
asad
Hammad
Hamza Hashmi
Shameel
Sir Shehzad
hammad56765@Ubuntu:~/lab06$ sort -k lab6.txt
sort: invalid number at field start: invalid count at start of 'lab6.txt'
```



Tasks

1. Task

Write a C program using system call(s) to create

- A directory called "os".
- Inside "os" create another directory named "lab7" and
- Create a file called "timestamp" in "lab7" directory. The file timestamp must contain the current date and time. Make copy of timestamp file with named "datetime". R

C program :

```
hammad56765@Ubuntu:~$ touch task1.c
hammad56765@Ubuntu:~$ cat>task1.c
#include <stdio.h>
#include<stdlib.h>
int main(){
system(mkdir -p os/lab7);
system("date > os/lab7/timestamp");
system("cp os/lab7/timestamp os/lab7/datetime");
print("Directories and files created successfully");
return 0;
}
hammad56765@Ubuntu:~$ gcc task1.c -o task1
hammad56765@Ubuntu:~$ ./task1.c
bash: ./task1.c: Permission denied
hammad56765@Ubuntu:~$ chmod 777 task1.c

hammad56765@Ubuntu:~$ ./task1
Directories and files created successfullyhammad56765@Ubuntu:~$ ls
Desktop  fstudents.txt  lab06  Pictures  RIPHAH  student.txt  Templates
Documents  lab04          Music  pstudent.txt  snap    task1        Videos
Downloads  lab05          os     Public     student  task1.c

hammad56765@Ubuntu:~$ ls os/lab7
datetime  timestamp
hammad56765@Ubuntu:~$ 
hammad56765@Ubuntu:~/os/lab7$ cat<timestamp
Tue 30 Sep 13:18:05 PKT 2025
hammad56765@Ubuntu:~/os/lab7$ cat<datetime
Tue 30 Sep 13:18:05 PKT 2025
hammad56765@Ubuntu:~/os/lab7$
```



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2. Task

Try the following

```
hammad56765@Ubuntu:~$ echo -e "\033[1m Hello world"
Hello world
hammad56765@Ubuntu:~$ echo -e "\033[5m Blink"
:~$ echo -e "\033[0m Hello world"
Hello world
hammad56765@Ubuntu:~$ echo -e "\033[31m Hello world"
Hello world
hammad56765@Ubuntu:~$ echo -e "\033[32m Hello world"
Hello world
hammad56765@Ubuntu:~$ echo -e "\033[33m Hello world"
Hello world
hammad56765@Ubuntu:~$ echo -e "\033[34m Hello world"
Hello world
hammad56765@Ubuntu:~$ echo -e "\033[35m Hello world"
Hello world
hammad56765@Ubuntu:~$ echo -e "\033[36m Hello world"
Hello world
hammad56765@Ubuntu:~$ echo -e -n "\033[0m "
hammad56765@Ubuntu:~$ echo -e "\033[41m Hello world"
Hello world
hammad56765@Ubuntu:~$ echo -e "\033[42m Hello world"
Hello world
hammad56765@Ubuntu:~$ echo -e "\033[43m Hello world"
Hello world
hammad56765@Ubuntu:~$ echo -e "\033[0m Hello world"
Hello world
hammad56765@Ubuntu:~$ ls /lib/modules
6.8.0-40-generic
hammad56765@Ubuntu:~$ uname -r
6.8.0-40-generic
hammad56765@Ubuntu:~$
```

3. Task

Print(ls) contents of /lib/modules directory by pressing command ls /lib/modules Now run following command uname -r Note output of both above commands.'

```
hammad56765@Ubuntu:~$ ls /lib/modules
6.8.0-40-generic
hammad56765@Ubuntu:~$ uname -r
6.8.0-40-generic
hammad56765@Ubuntu:~$
```



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4. Task

Run all above switches with uname command.

```
hammad56765@Ubuntu:~$ uname -n
Ubuntu
hammad56765@Ubuntu:~$ uname -r
6.8.0-40-generic
hammad56765@Ubuntu:~$ uname -v
#40~22.04.3-Ubuntu SMP PREEMPT_DYNAMIC Tue Jul 30 17:30:19 UTC 2
hammad56765@Ubuntu:~$ uname -m
x86_64
hammad56765@Ubuntu:~$ uname -p
x86_64
hammad56765@Ubuntu:~$ uname -i
x86_64
hammad56765@Ubuntu:~$ uname -o
GNU/Linux
hammad56765@Ubuntu:~$ uname -a
Linux Ubuntu 6.8.0-40-generic #40~22.04.3-Ubuntu SMP PREEMPT_DYNA
MIC Tue Jul 30 17:30:19 UTC 2 x86_64 x86_64 x86_64 GNU/Linux
hammad56765@Ubuntu:~$
```

5. Task

Now use other option with sort command and observe output.

```
hammad56765@Ubuntu:~/lab06$ sort lab6.txt
Ahmed
Ahmed
Anees
asad
Hammad
Hamza Hashmi
Shameel
Sir Shehzad
hammad56765@Ubuntu:~/lab06$ sort -r lab6.txt
Sir Shehzad
Shameel
Hamza Hashmi
Hammad
asad
Anees
Ahmed
Ahmed
hammad56765@Ubuntu:~/lab06$ sort -f lab6.txt
Ahmed
Ahmed
Anees
asad
Hammad
Hamza Hashmi
Shameel
Sir Shehzad
```



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```
hammad56765@Ubuntu:~/lab06$ sort -b lab6.txt
Ahmed
Ahmed
Anees
asad
Hammad
Hamza Hashmi
Shameel
Sir Shehzad
hammad56765@Ubuntu:~/lab06$ sort -n lab6.txt
Ahmed
Ahmed
Anees
asad
Hammad
Hamza Hashmi
Shameel
Sir Shehzad
hammad56765@Ubuntu:~/lab06$ sort -k 2 lab6.txt
Anees
asad
Hammad
Ahmed
Ahmed
Shameel
Hamza Hashmi
Sir Shehzad
```

6. Task

Create another file with two columns in it. like

12 Operation payback

6 Network security

14 Hacking is fun

7 Tiger lives in jungle

13 Pakistan will win today



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```
hammad56765@Ubuntu:~/lab06$ touch string.txt
hammad56765@Ubuntu:~/lab06$ cat>string.txt
12 operation payback
6 Network security
14 hacking is Fun
7 Tiger lives in jungle
13 Pakistan will win today
hammad56765@Ubuntu:~/lab06$ sort string.txt
12 operation payback
13 Pakistan will win today
14 hacking is Fun
6 Network security
7 Tiger lives in jungle
hammad56765@Ubuntu:~/lab06$ sort -n string.txt
6 Network security
7 Tiger lives in jungle
12 operation payback
13 Pakistan will win today
14 hacking is Fun
hammad56765@Ubuntu:~/lab06$ sort -k 2 string.txt
14 hacking is Fun
6 Network security
12 operation payback
13 Pakistan will win today
7 Tiger lives in jungle
hammad56765@Ubuntu:~/lab06$
```

7. Task

What would be the result of the following commands.

- `cat filename > new` // filename is name of file that exist at current path
- `date > new` Riphah International University I-14, Islamabad 11
- `ls | sort -r`



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- ls | sort -r >> new

```
hammad56765@Ubuntu:~/lab06$ cat string.txt > new.txt
hammad56765@Ubuntu:~/lab06$ cat<new.txt
12 operation payback
6 Network security
14 hacking is Fun
7 Tiger lives in jungle
13 Pakistan will win today
hammad56765@Ubuntu:~/lab06$ date > new.txt
hammad56765@Ubuntu:~/lab06$ cat<new.txt
Tue 30 Sep 21:42:21 PKT 2025
hammad56765@Ubuntu:~/lab06$ ls | sort -r
string.txt
new.txt
lab6.txt
first
hammad56765@Ubuntu:~/lab06$ ls | sort -r >>new.txt
hammad56765@Ubuntu:~/lab06$ cat<new.txt
Tue 30 Sep 21:42:21 PKT 2025
string.txt
new.txt
lab6.txt
first
hammad56765@Ubuntu:~/lab06$
```

-----END-----