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SECTION : SE 5-2

LAB TASK : “06”

TASK : 01

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".

Your program must perform above four tasks when program executed.

(hint: redirection > or < can be used to store date and time in the file).

ANSWER :

STEP 01 :

```
haseeb@ubuntu64:~/lab06$ nano lab06_task01.c
haseeb@ubuntu64:~/lab06$ nano lab06_task01.c
haseeb@ubuntu64:~/lab06$
```

STEP 02 :

```
#include <stdio.h>
#include <stdlib.h>

int main(void) {
    int status;

    status = system("mkdir -p os/lab7");
    if (status == -1) {
        perror("system(mkdir)");
        return 1;
    }

    status = system("date > os/lab7/timestamp");
    if (status == -1) {
        perror("system(date)");
        return 1;
    }

    status = system("cp -f os/lab7/timestamp os/lab7/datetime");
    if (status == -1) {
        perror("system(cp)");
        return 1;
    }

    status = system("chmod 644 os/lab7/timestamp os/lab7/datetime");
    if (status == -1) {
        perror("system(chmod)");
        return 1;
    }

    printf("Done: os/lab7 created, timestamp written and copied to datetime.\n");
    return 0;
}
```

STEP 03 :

```
~/Downloads/lab06$ gcc -o lab06_task01 lab06_task01.c
~/Downloads/lab06$ ls
1 lab06_task01.c  lab06.txt
~/Downloads/lab06$
```

TASK 02 :

```
Hello World
Blink
Hello World
Hello World
Hello World
Hello World
Hello World
Hello World
Hello World
Hello World
Hello World
Hello World
Hello World
haseeb@ubuntu64:~/lab06$
```

TASK 03 :

```
haseeb@ubuntu64:~/lab06$ ^[[200~ls /lib/modules      # shows installed kernel versions
ls: command not found
haseeb@ubuntu64:~/lab06$ uname -r                  # shows current running kernel version
6.8.0-40-generic
haseeb@ubuntu64:~/lab06$ ~
```

TASK 04 :

```
haseeb@ubuntu64:~/lab06$ uname -s # kernel name
uname -n # hostname
uname -r # kernel release
uname -v # kernel version
uname -m # machine hardware
uname -p # processor type
uname -i # hardware platform
uname -o # OS
uname -a # all information
Linux
ubuntu64
6.8.0-40-generic
#40~22.04.3-Ubuntu SMP PREEMPT_DYNAMIC Tue Jul 30 17:30:19 UTC 2
x86_64
x86_64
x86_64
GNU/Linux
Linux ubuntu64 6.8.0-40-generic #40~22.04.3-Ubuntu SMP PREEMPT_DYNAMIC Tue Jul 30 17:30:19 UTC 2 x86_64 x86_64 x86_64 GNU/Linux
haseeb@ubuntu64:~/lab06$
```

TASK 05 :

STEP 01 :

```
haseeb@ubuntu64:~/lab06$ echo -e "3 cat\n1 dog\n2 bird" > sample.txt
haseeb@ubuntu64:~/lab06$
```

STEP 02 :

```
haseeb@ubuntu64:~/lab06$ sort sample.txt          # alphabetical
sort -n sample.txt      # numeric
sort -r sample.txt      # reverse
sort -k2 sample.txt     # sort by second column
sort -u sample.txt      # unique
1 dog
2 bird
3 cat
1 dog
2 bird
3 cat
3 cat
2 bird
1 dog
2 bird
3 cat
1 dog
1 dog
2 bird
3 cat
haseeb@ubuntu64:~/lab06$
```

TASK 06 :

```
haseeb@ubuntu64:~/lab06$ cat > two_cols.txt <<'EOF'
12 Operation payback
6 Network security
14 Hacking is fun
7 Tiger lives in jungle
13 Pakistan will win today
EOF
haseeb@ubuntu64:~/lab06$
```

STEP 02 :

```
haseeb@ubuntu64:~/lab06$ sort -n -k1 two_cols.txt # sort by first column (numeric)
sort -r -k2 two_cols.txt # reverse sort by second column (alphabetical)
sort -nr two_cols.txt    # numeric descending by first column
6 Network security
7 Tiger lives in jungle
12 Operation payback
13 Pakistan will win today
14 Hacking is fun
7 Tiger lives in jungle
13 Pakistan will win today
12 Operation payback
6 Network security
14 Hacking is fun
14 Hacking is fun
13 Pakistan will win today
12 Operation payback
7 Tiger lives in jungle
6 Network security
```

TASK 07 :

STEP 01 :

```
haseeb@ubuntu64:~/lab06$ cat haseeb.txt  
This is task 07 file  
haseeb@ubuntu64:~/lab06$
```

STEP 02 :

```
This is task 07 file  
haseeb@ubuntu64:~/lab06$ cat haseeb.txt > new.txt  
haseeb@ubuntu64:~/lab06$
```

STEP 03 :

```
haseeb@ubuntu64:~/lab06$ cat haseeb.txt > new.txt  
haseeb@ubuntu64:~/lab06$ cat new.txt  
This is task 07 file  
haseeb@ubuntu64:~/lab06$ s
```

STEP : 04

```
Try: apt install <deb name>  
haseeb@ubuntu64:~/lab06$ date > new.txt  
haseeb@ubuntu64:~/lab06$ cat new.txt  
Tue Sep 30 08:37:51 AM PDT 2025  
haseeb@ubuntu64:~/lab06$
```
