# RIPHAH INTERNATIONAL UNIVERSITY, ISLAMABAD


## Lab#4

## Bachelors of Computer Science – 5th Semester

### Subject: Operating System

Submitted to: Ms. Kausar Nasreen Khattak

Submitted by: Tabinda Hassan

Date of Submission:

## Task#1:

You are tasked with changing the access permissions of file name **LINUXOS** according to the following requirements by using **both methods.**

User (Owner): Full permissions (read, write, and execute).

Group: Read and write permissions.

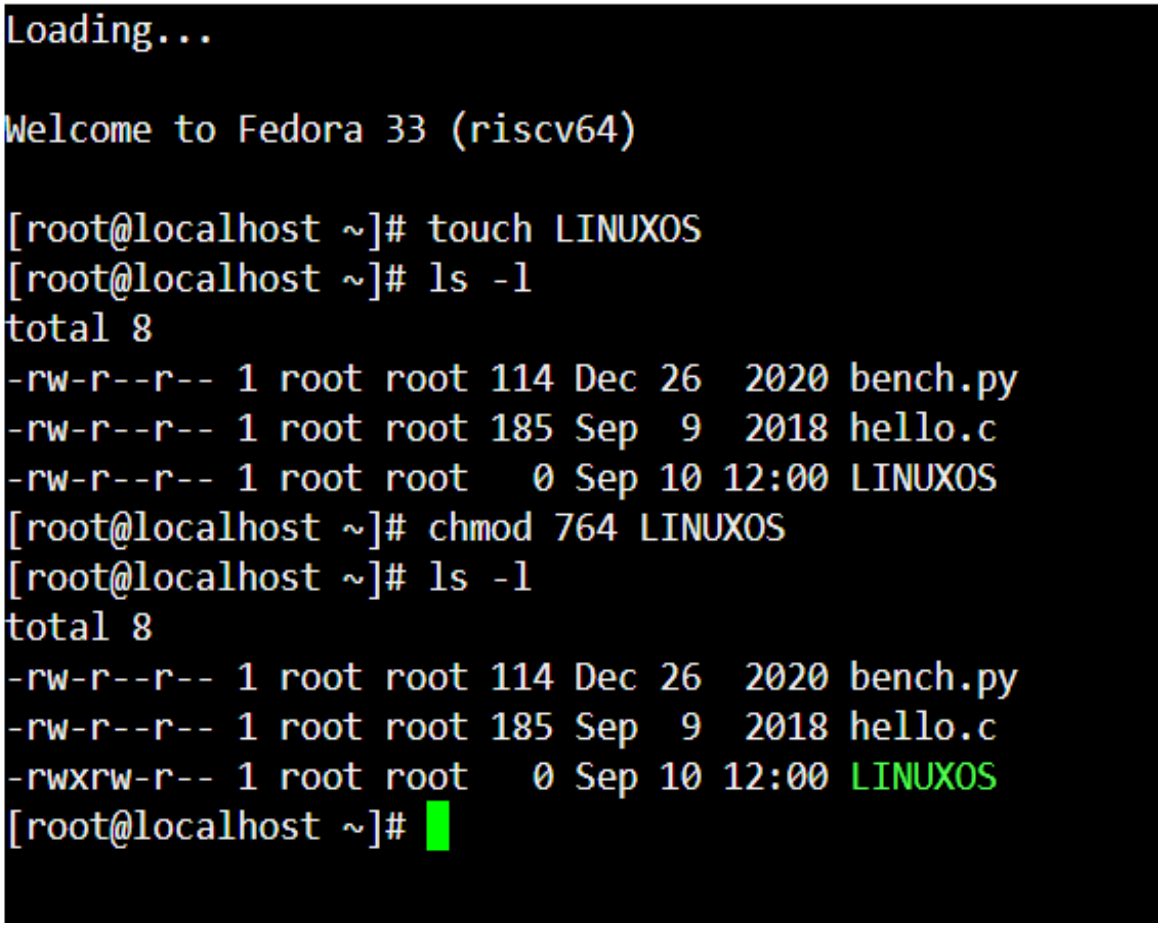
Others: Read permission only. (02 Marks)

**Note:** Include screenshots, where required to illustrate your explanation

**Symbolic Method:**

```
Loading...

Welcome to Fedora 33 (riscv64)

[root@localhost ~]# touch LINUXOS
[root@localhost ~]# ls -l
total 8
-rw-r--r-- 1 root root 114 Dec 26  2020 bench.py
-rw-r--r-- 1 root root 185 Sep  9  2018 hello.c
-rw-r--r-- 1 root root   0 Sep 10 11:53 LINUXOS
[root@localhost ~]# chmod u+rwx LINUXOS
[root@localhost ~]# ls -l
total 8
-rw-r--r-- 1 root root 114 Dec 26  2020 bench.py
-rw-r--r-- 1 root root 185 Sep  9  2018 hello.c
-rwxr--r-- 1 root root   0 Sep 10 11:53 LINUXOS
[root@localhost ~]# chmod g+rw LINUXOS
[root@localhost ~]# ls -l
total 8
-rw-r--r-- 1 root root 114 Dec 26  2020 bench.py
-rw-r--r-- 1 root root 185 Sep  9  2018 hello.c
-rwxrw-r-- 1 root root   0 Sep 10 11:53 LINUXOS
[root@localhost ~]# ls -l
total 8
-rw-r--r-- 1 root root 114 Dec 26  2020 bench.py
-rw-r--r-- 1 root root 185 Sep  9  2018 hello.c
-rwxrw-r-- 1 root root   0 Sep 10 11:53 LINUXOS
[root@localhost ~]#
```

**Numerical Method:**



## Task#2:

Create a directory called lab4 and create three files say quiz, report and cprogram inside the directory. Now try to set the following rights;
-rw-r- - r- - quiz
-rw-rw - r- - report
-rwx rwx x cprogram
(02 Marks)
**Note:** Include screenshots, where required to illustrate your explanation.

```
[root@localhost ~]# mkdir lab4
[root@localhost ~]# cd lab4
[root@localhost lab4]# touch quiz
[root@localhost lab4]# touch report
[root@localhost lab4]# touch cprogram
[root@localhost lab4]# ls
cprogram  quiz  report
[root@localhost lab4]# ls -l
total 0
-rw-r--r-- 1 root root 0 Sep 10 12:07 cprogram
-rw-r--r-- 1 root root 0 Sep 10 12:07 quiz
-rw-r--r-- 1 root root 0 Sep 10 12:07 report
[root@localhost lab4]# chmod 644 quiz
[root@localhost lab4]# ls -l
total 0
-rw-r--r-- 1 root root 0 Sep 10 12:07 cprogram
-rw-r--r-- 1 root root 0 Sep 10 12:07 quiz
-rw-r--r-- 1 root root 0 Sep 10 12:07 report
[root@localhost lab4]# chmod 664 report
[root@localhost lab4]# ls -l
total 0
-rw-r--r-- 1 root root 0 Sep 10 12:07 cprogram
-rw-r--r-- 1 root root 0 Sep 10 12:07 quiz
-rw-rw-r-- 1 root root 0 Sep 10 12:07 report
[root@localhost lab4]# chmod 771 cprogram
[root@localhost lab4]# ls -l
total 0
-rwxrwx--x 1 root root 0 Sep 10 12:07 cprogram
-rw-r--r-- 1 root root 0 Sep 10 12:07 quiz
-rw-rw-r-- 1 root root 0 Sep 10 12:07 report
[root@localhost lab4]#
```

## Task#3:

You are managing a project where you need to organize and summarize information for a class assignment. On your Linux system, you have two directories named OSLAB and OSTheory. In the OSLAB directory, your task is to create three text files: overview.txt with the text "Overview of Operating Systems," details.txt with the text "Detailed study of key OS concepts," and applications.txt with the text "Applications and examples of OS concepts." Once these files are created and populated, you need to combine their contents into a single file named Combinedtext. Now display the data in a Combinedtext.

**Note:** Include screenshots, where required to illustrate your explanation. (02 Marks)

```
Loading...

Welcome to Fedora 33 (riscv64)

mk[root@localhost ~]# mkdir OSLAB
[root@localhost ~]# mkdir OSTHEORY
[root@localhost ~]# ls
bench.py  hello.c  OSLAB  OSTHEORY
[root@localhost ~]# cd OSLAB
[root@localhost OSLAB]# cat > overview.txt
Overview of Operating System
[root@localhost OSLAB]# cat > details.txt
Detailed study of key OS concept
[root@localhost OSLAB]# cat > applications.txt
Applications and Examples of OS concepts
[root@localhost OSLAB]# ls
applications.txt  details.txt  overview.txt
[root@localhost OSLAB]# cat overview.txt details.txt applications.txt > CombinedText
[root@localhost OSLAB]# cat CombinedText
Overview of Operating System
Detailed study of key OS concept
Applications and Examples of OS concepts
[root@localhost OSLAB]#
```

## Task#4:

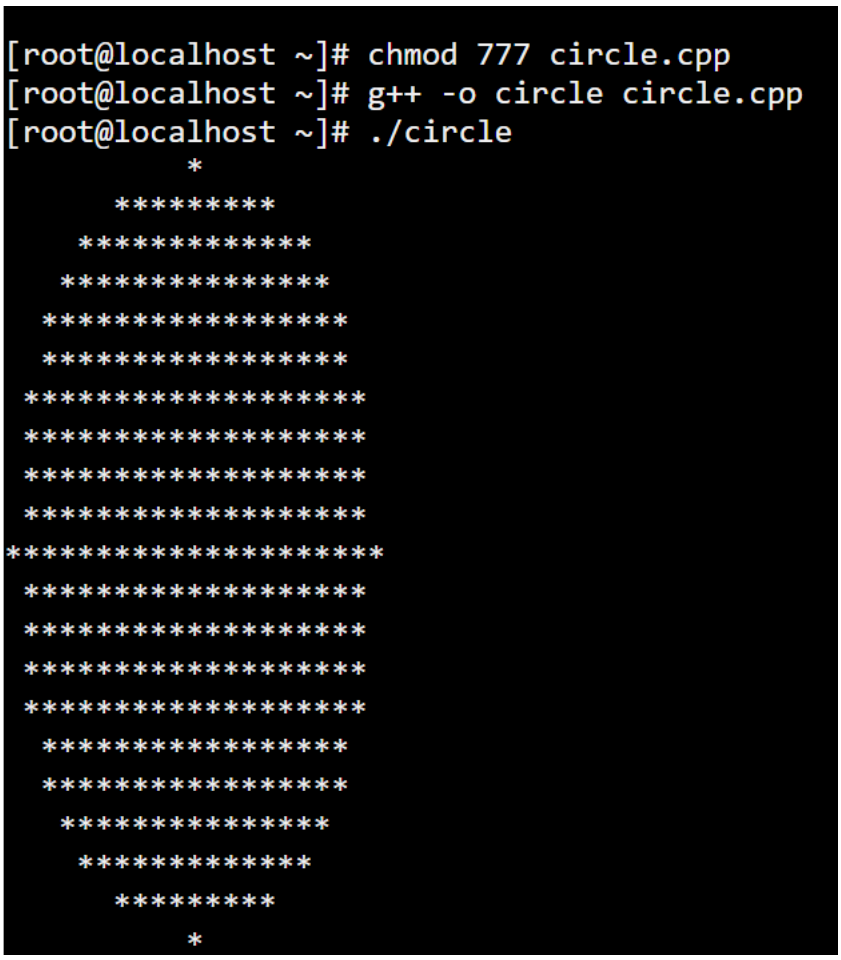
Directory A contains at least two files named "FinalTerm" and "MidTerm". Directory B contains at least two files named "OSTheory" and "OSLAB".
Your task involves the following steps:
Move the "MidTerm" file from the existing Directory to the Directory where the OSLAB file exists and Rename it with TASK.
**Note:** Include screenshots, where required to illustrate your explanation. (02 Marks)

```
Loading...

Welcome to Fedora 33 (riscv64)

[root@localhost ~]# mkdir A
[root@localhost ~]# mkdir B
[root@localhost ~]# cd A
[root@localhost A]# touch FinalTerm
[root@localhost A]# touch MidTerm
[root@localhost A]# ls
FinalTerm  MidTerm
[root@localhost A]# cd ..
[root@localhost ~]# cd B
[root@localhost B]# touch OSTheory
[root@localhost B]# touch OSLab
[root@localhost B]# ls
OSLab  OSTheory
[root@localhost B]# cd
[root@localhost ~]# mv /root/A/MidTerm /root/B/Task
[root@localhost ~]#
[root@localhost ~]# ls
A  B  bench.py  hello.c
[root@localhost ~]# cd A
[root@localhost A]# ls
FinalTerm
[root@localhost A]# cd ..
[root@localhost ~]# cd B
[root@localhost B]# ls
OSLab  OSTheory  Task
[root@localhost B]#
```

**Task#5:**

```
Welcome to Fedora 33 (riscv64)

[root@localhost ~]# nano circle.cpp
```

```
 GNU nano 5.3                    circle.cpp                         Modified
#include <iostream>
int main() {ath>
 const int radius = 10; // Radius of the circle
 const int  diameter = radius * 2;
 for (int y = 0; y <= diameter; ++y) {
        for (int x = 0; x <= diameter; ++x) {
            // Check if the point is within the circle
            if (std::pow(x - radius, 2) + std::pow(y - radius, 2) <=
            std::pow(radius, 2)) {
                std::cout << '*';
            } else {
                std::cout << ' ';
            }
        }
        std::cout << '\n';
    }
    return 0;
}
```


[root@localhost ~]# chmod 777 circle.cpp
[root@localhost ~]# g++ -o circle circle.cpp
[root@localhost ~]# ./circle
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