Lab Tasks

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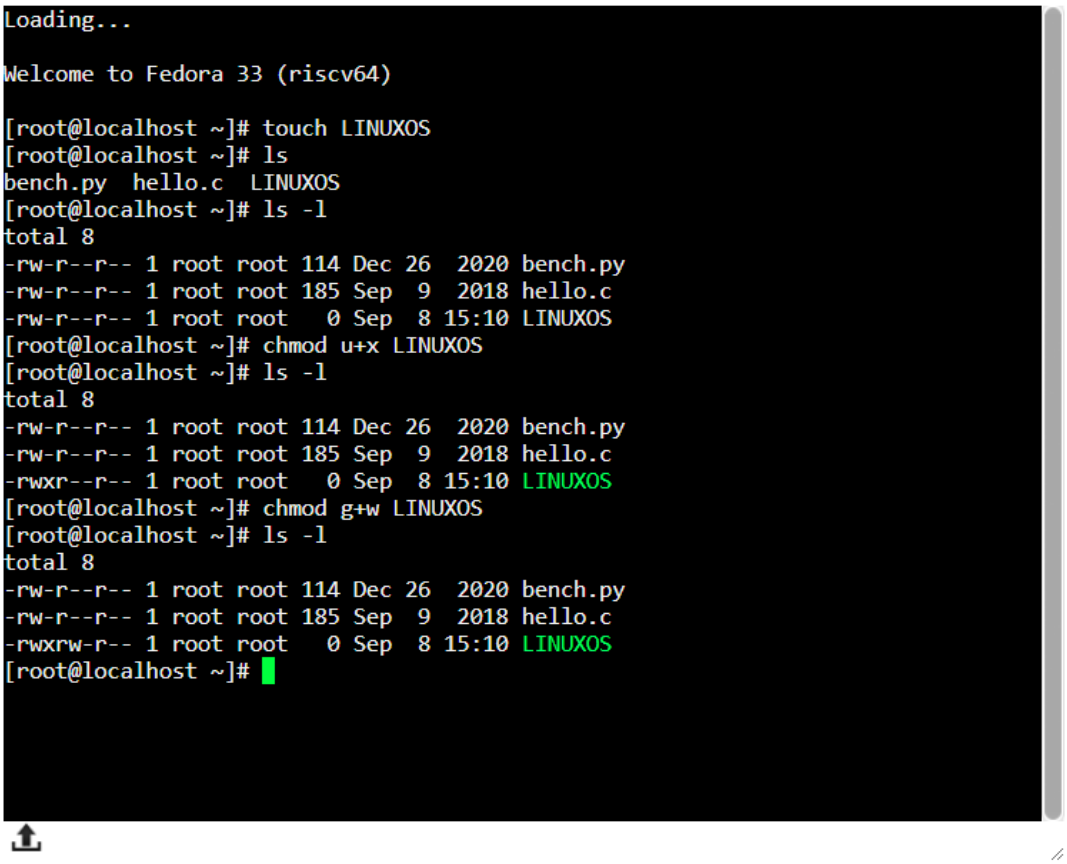
BSCS SEMESTER – 5

RIPHAH INTERNATIONAL UNIVERSITY

ISLAMABAD, PAKISTAN

Task 01

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)



Numeric

```
Welcome to Fedora 33 (riscv64)

[root@localhost ~]# touch LINUXOS
[root@localhost ~]# ls
bench.py  hello.c  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  8 17:16 LINUXOS
[root@localhost ~]# chmod 764 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  8 17:16 LINUXOS
[root@localhost ~]#
```

Task 02

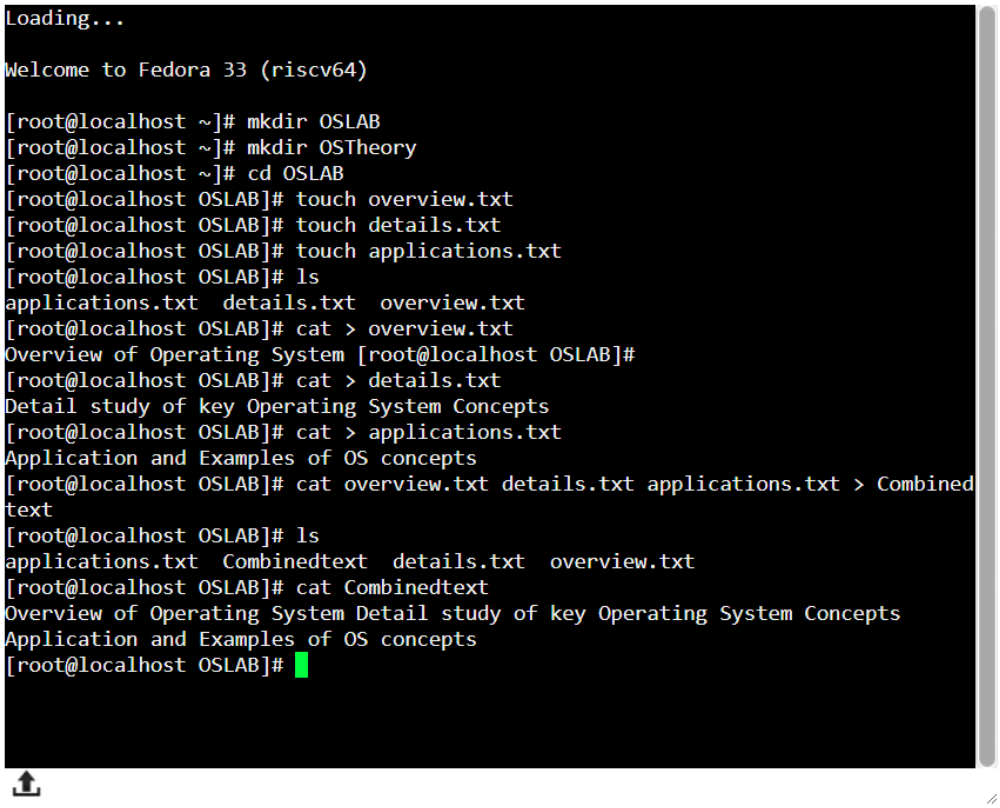
. Create a directory called lab4 and create three files say quiz, report and cprogram inside the directory. Now try to set the following rights;
-rw-r- - r- - quiz
-rw-rw - r- - report
-rwx rwx x cprogram
(02 Marks)

```
Loading...

Welcome to Fedora 33 (riscv64)

[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  8 16:08 cprogram
-rw-r--r-- 1 root root 0 Sep  8 16:08 quiz
-rw-r--r-- 1 root root 0 Sep  8 16:08 report
[root@localhost lab4]# chmod 644 quiz
```

```
-rw-r--r-- 1 root root 0 Sep  8 16:08 cprogram
-rw-r--r-- 1 root root 0 Sep  8 16:08 quiz
-rw-r--r-- 1 root root 0 Sep  8 16:08 report
[root@localhost lab4]# chmod 644 quiz
[root@localhost lab4]# ls -l
total 0
-rw-r--r-- 1 root root 0 Sep  8 16:08 cprogram
-rw-r--r-- 1 root root 0 Sep  8 16:08 quiz
-rw-r--r-- 1 root root 0 Sep  8 16:08 report
[root@localhost lab4]# chmod 664 report
[root@localhost lab4]# ls -l
total 0
-rw-r--r-- 1 root root 0 Sep  8 16:08 cprogram
-rw-r--r-- 1 root root 0 Sep  8 16:08 quiz
-rw-rw-r-- 1 root root 0 Sep  8 16:08 report
[root@localhost lab4]# chmod 771 cprogram
[root@localhost lab4]# ls -l
total 0
-rwxrwx--x 1 root root 0 Sep  8 16:08 cprogram
-rw-r--r-- 1 root root 0 Sep  8 16:08 quiz
-rw-rw-r-- 1 root root 0 Sep  8 16:08 report
[root@localhost lab4]#
```

Task 03

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.


Loading...
Welcome to Fedora 33 (riscv64)
[root@localhost ~]# mkdir OSLAB
[root@localhost ~]# mkdir OSTheory
[root@localhost ~]# cd OSLAB
[root@localhost OSLAB]# touch overview.txt
[root@localhost OSLAB]# touch details.txt
[root@localhost OSLAB]# touch applications.txt
[root@localhost OSLAB]# ls
applications.txt details.txt overview.txt
[root@localhost OSLAB]# cat > overview.txt
Overview of Operating System [root@localhost OSLAB]#
[root@localhost OSLAB]# cat > details.txt
Detail study of key Operating System Concepts
[root@localhost OSLAB]# cat > applications.txt
Application and Examples of OS concepts
[root@localhost OSLAB]# cat overview.txt details.txt applications.txt > Combined
text
[root@localhost OSLAB]# ls
applications.txt Combinedtext details.txt overview.txt
[root@localhost OSLAB]# cat Combinedtext
Overview of Operating System Detail study of key Operating System Concepts
Application and Examples of OS concepts
[root@localhost OSLAB]#

Task 04

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.

```
[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 B
sh: cd: B: No such file or directory
[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 ~]# cd A
[root@localhost A]# mv /root/A/MidTerm /root/B
[root@localhost A]# ls
FinalTerm
[root@localhost A]# cd
[root@localhost ~]# mv B/ TASK/
```

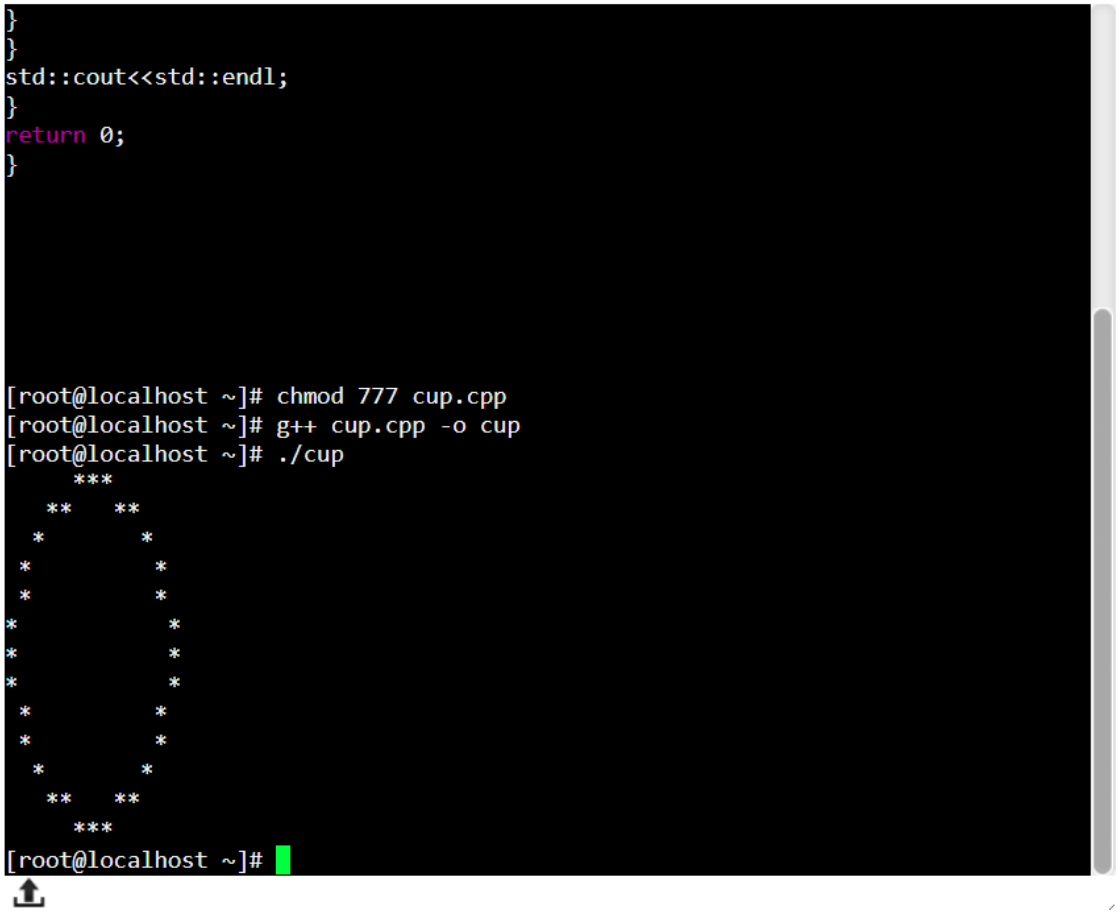
```
A  bench.py  hello.c  TASK
[root@localhost ~]# cd TASK
[root@localhost TASK]# ls
MidTerm  OSLab  OSTheory
[root@localhost TASK]#
```

Task 05

As part of your coursework, you have been assigned a project to develop a simple application on a Linux system. Your task is to write a C++ program that draws a circle on the screen. Describe the steps you would follow to complete this task, including the setup of the necessary library, writing the C++ code, compiling the program, and running it to display the circle. What commands and procedures would you use to accomplish this?

Note: Include screenshots, where required to illustrate your explanation

```
  GNU nano 5.3                          cup.cpp
#include<iostream>
#include<math.h>
int main(){
int radius =6;
int i , j;
for(i=0; i<=2*radius; i++){
for(j=0; j<=2*radius; j++){
double distance=sqrt((double)(i-radius)*(i-radius)+(j-radius)*(j-radius));
if(distance>radius-0.65 && distance<radius+0.2)
{
std::cout<<"*";
}
else
{
std::cout<<" ";
}
}
std::cout<<std::endl;
}
return 0;
}
```



First, we have to create a file with nano and file name, after we move towards GNU here we have to write C++ code after that we press ctrl X and then Y for yes then enter and come to the home screen where we write further commands to display the result.In online terminal we doesn't need setup for c++ and c but actually we have install apt g++ And gcc for language extension.