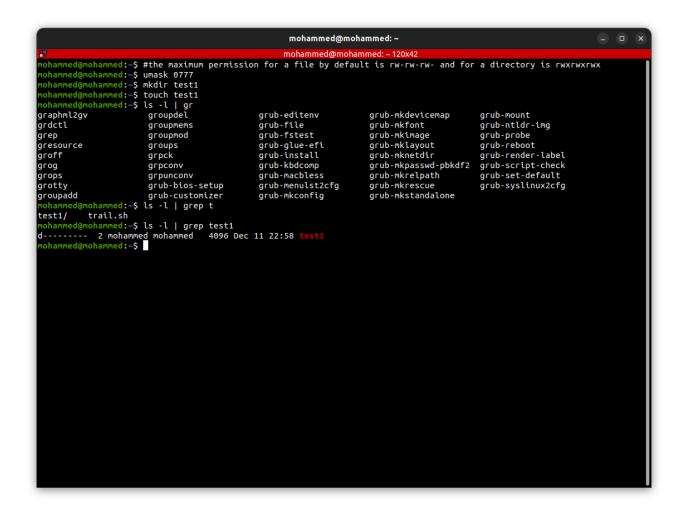
```
mohammed@mohammed: ~
                             mohammed@mohammed: ~ 80x24
mohammed@mohammed:~$ mkdir myteam
mohammed@mohammed:~$ chmod u-w my
myDirectory/ myteam/
mohammed@mohammed:~$ chmod u-w myteam/
mohammed@mohammed:~$ ls -l my
myDirectory/ myteam/
mohammed@mohammed:~$ ls -l myteam/
total 0
mohammed@mohammed:~$ ls -l
total 704
           1 mohammed mohammed 450742 Dec 4 02:11
- FW- FW- F--
-rwxrwxr-x 1 mohammed mohammed
                                  286 Nov 22 17:33
                                                    bestdayever.sh
                                  161 Nov 22 09:16 "bestdayever.sh'"
           1 mohammed mohammed
- FW- FW- F--
-rwxrwxr-x 1 mohammed mohammed
                                          4 19:56
                                                    dangerous.sh
                                   57 Dec
drwxr-xr-x 4 mohammed mohammed
                                 4096 Aug
                                          3 10:53
                                                    Desktop
drwxrwxr-x 3 mohammed mohammed
                                 4096 Nov 20 10:07
                                                    dir1
drwxrwxr-x 2 mohammed mohammed
                                 4096 Dec
                                          4 21:35
drwxr-xr-x 2 mohammed mohammed
                                 4096 Dec 11 17:51 Documents
drwxr-xr-x 3 mohammed mohammed
                                 4096 Dec 5 02:50
                                                    Downloads
-rwxrwxr-x 1 mohammed mohammed
                                  874 Nov 23 10:22 eldenring.sh
drwxrwxr-x 5 mohammed mohammed
                                 4096 Dec 5 02:19
                                                    embedded_fady
drwxrwxr-x 7 mohammed mohammed
                                 4096 Dec
                                          4 21:41 Embedded-Linux
-rw-rw-r-- 1 mohammed mohammed
                                 3457 Mar 11 2023
                                                    example.txt
-rw-rw-r-- 1 mohammed mohammed
                                    0 Dec 4 20:53 file{1..5}.txt
```

```
mohammed@mohammed: ~
                                                                               ×
                             mohammed@mohammed: ~ 80x24
                                  4096 Dec 4 21:37
drwxrwxr-x
           2 mohammed mohammed
                                                    script_exercise
-rwxrwxr-x 1 mohammed mohammed
                                  419 Dec
                                           4 21:34
                                                    script_exercise.sh
drwx----- 12 mohammed mohammed
                                  4096 Dec 4 00:28
                                  4096 Mar
drwxr-xr-x 2 mohammed mohammed
                                           1 2023
                                                    Templates
-rwxrwxr-x 1 mohammed mohammed
                                   237 Dec 4 04:25
                                                     trail.sh
-rwxrwxr-x 1 mohammed mohammed
                                   739 Dec 5 00:48
                                                    until example.sh
-rwxrwxr-x 1 mohammed mohammed
                                   254 Dec 11 18:30
                                                    usergroup.sh
drwxr-xr-x 3 mohammed mohammed
                                  4096 Dec 4 00:23 Videos
mohammed@mohammed:~$ chmod u-x myteam/
mohammed@mohammed:~$ ls
                    Embedded-Linux
                                           passwd
                                                             ros2_ws_second
 bestdayever.sh
                    example.txt
                                           Pictures
                                                             ros5 ws
'bestdayever.sh'"
                    file{1..5}.txt
                                           Public
                                                             script_exercise
 dangerous.sh
                    first_bash_script.sh
                                           pushups.sh
                                                             script exercise.sh
 Desktop
                                           read_example.sh
 dir1
                    getrichquick.sh
                                           ros2_example_1
                                                             Templates
                    hamlet
                                           ros2_example_2
                                                             trail.sh
 Documents
                    kk.coffee
                                                             until_example.sh
                                           ros2_example_3
                                                             usergroup.sh
 Downloads
                   Music
                                           ros2_ws
                   myDirectory
                                                             Videos
 eldenring.sh
                                           ros2_ws3
                   myteam
 embedded_fady
                                           ros2_ws4
nohammed@mohammed:~$ ls -l
total 704
-rw-rw-r-- 1 mohammed mohammed 450742 Dec 4 02:11 archive.tar.gz
```

```
anas@mohammed: /home/mohammed/myteam
 sudo: "cd" is a shell built-in command, it cannot be run directly.
sudo: the -s option may be used to run a privileged shell.
sudo: the -D option may be used to run a command in a specific directory.
   anas@mohammed:~$ ;s
  -bash: syntax error near unexpected token `;'
  anas@mohammed:~$ ls
anas@mohammed:~$ cd
anas@mohammed:~$ cd
anas@mohammed:~$ cd /
anas@mohammed:/$ cd /home/
anas/ mohammed/ youName/
anas@mohammed:/$ cd /home/mohammed/
-bash: cd: /home/mohammed/: Permission denied
anas@mohammed:/$ sudo cd /home/mohammed/
sudo: cd: command not found
sudo: "cd" is a shell built-in command, it cannot be run directly.
sudo: the -s option may be used to run a privileged shell.
sudo: the -D option may be used to run a command in a specific directory.
anas@mohammed:/$ cd /home/mohammed/
-bash: cd: /home/mohammed/: Permission denied
anas@mohammed:/$ cd /home/
anas@mohammed:/$ cd /home/
anas@mohammed:/home$ ls -l
total 12
 total 12
 drwxr-x--- 4 anas anas 4096 Dec 9 09:46 anas
drwxr-x--- 45 mohammed mohammed 4096 Dec 11 21:57 mohammed
drwxr-x--- 45 mohammed mohammed 4096 Dec 11 21:57 mohammed drwxr-x--- 2 youName youName 4096 Dec 11 18:30 youName anas@mohammed:/home$ chmod o+rx mohammed/
chmod: changing permissions of 'mohammed/': Operation not permitted anas@mohammed:/home$ sudo chmod o+rx mohammed/
anas@mohammed:/home$ cd
anas@mohammed:~$ cd /home/mohammed/
.cache/ embedded_fady/ .mozilla/ ros2_example_1/
.config/ Embedded_Linux/ Music/ ros2_example_2/
                                                                                                                                              ros2_example_1/
ros2_example_2/
ros2_example_3/
ros2_ws/
ros2_ws3/
ros2_ws4/
ros2_ws_second/
ros5_ws/
                                                                                                                                                                                              .rviz2/
                                                                                                                                                                                                                                                .var/
                                                                                                                                                                                             script_exercise/ Videos/
 Desktop/
                                                 .gazebo/
                                                                                               myDirectory/
                                                                                                                                                                                             .sdformat/
                                                                                                                                                                                                                                               .vscode/
 dir1/
docs/
                                                 .gnupg/
                                                                                                                                                                                               .shutter/
                                                                                                myteam/
                                                 .gz/
.ignition/
                                                                                                Pictures/
                                                                                                                                                                                               snap/
                                                                                                .pki/
Public/
  Documents/
                                                                                                                                                                                               .ssh/
                                                 .java/
.local/
                                                                                                                                                                                              Templates/
.thunderbird/
  .dotnet/
  Downloads/
                                                                                                 .ros/
   anas@mohammed:~$ cd /home/mohammed/my
  myDirectory/ myteam/
anas@mohammed:~$ cd /home/mohammed/myteam/
anas@mohammed:/home/mohammed/myteam$
```

```
4-
a-
using the chmod u+rw-x then chmod g+wx-r then chmod o+x-rw
or chmod 631 oct representation
b-
```



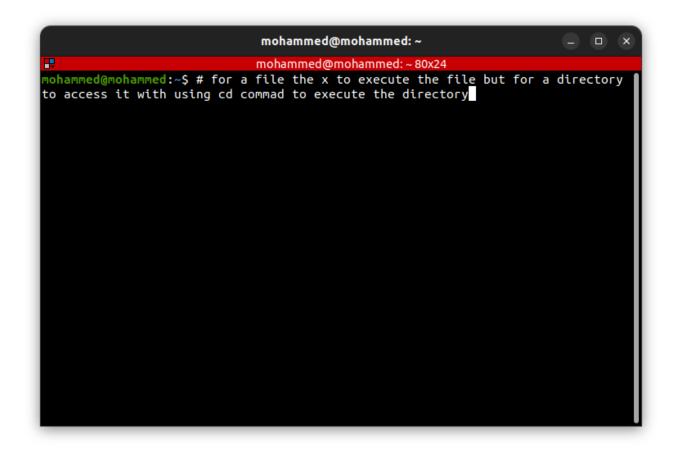
e-

The root user can change this or any user with sudo

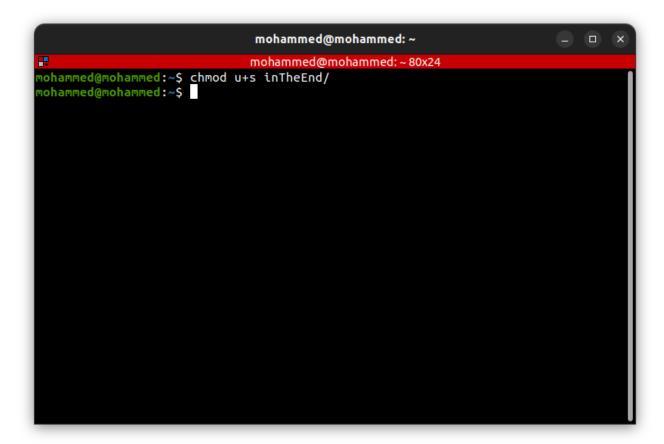
you can't remove this file as its permissions are r--r-- which mean the file is write protected and we can not delete it

```
mohammed@mohammed: ~
                               mohammed@mohammed: ~ 80x24
Mon Dec 11 11:24:32 PM EET 2023
mohammed@mohammed:~$ su -
Password:
su: Authentication failure
mohammed@mohammed:~$ su -
Password:
su: Authentication failure
mohammed@mohammed:~$ sudo su -
[sudo] password for mohammed:
root@mohammed:~# su -
root@mohammed:~# su - m
mail
            man
                                      messagebus mohammed
                         mark
root@mohammed:~# su - mohammed
Mon Dec 11 11:25:09 PM EET 2023
mohammed@mohammed:~$ umask
mohammed@mohammed:~$ touch perm
mohammed@mohammed:~$ chmod 444
chmod: missing operand after '444'
Try 'chmod --help' for more information. mohammed@mohammed:~$ chmod 444 perm
mohammed@mohammed:~$ vim perm
mohammed@mohammed:~$ rm perm
rm: remove write-protected regular empty file 'perm'?
```

6-x for a file means it can be executed but for a directory the executions means you can access it like using cd command



```
mohammed@mohammed: ~
                                     mohammed@mohammed: ~ 80x24
.bash history
                                  .pam environment
.bash_logout
                                  passwd
.bashrc
                                  perm
.bashrc.swp
                                  permission
bestdayever.sh
                                  permission2
bestdayever.sh'
                                  Pictures/
.cache/
                                  .pki/
.config/
dangerous.sh
                                  .profile
                                  Public/
Desktop/
                                  pushups.sh
dir1/
                                  read_example.sh
docs/
                                  .ros/
Documents/
                                  ros2_example_1/
.dotnet/
Downloads/
                                  ros2_example_2/
                                  ros2_example_3/
eldenring.sh
                                  ros2_ws/
                                  ros2_ws3/
ros2_ws4/
ros2_ws_second/
ros5_ws/
embedded_fady/
Embedded-Linux/
example.txt
.example.txt.swp
file{1..5}.txt
                                  .rviz2/
first_bash_script.sh script_exercise/
mohammed@mohammed:~$ chmod +t inTheEnd
mohammed@mohammed:~$
```



```
mohammed@mohammed: ~
                                      mohammed@mohammed: ~80x24
mohammed@mohammed:~$ chmod u+s inTheEnd/
mohammed@mohammed:~$ tail /etc/p
pam.conf
                  passwd-
                                                                         pulse/
                                    pm/
                                                       printcap
pam.d/
papersize
                                                                         python3/
                  pcmcia/
                                    pnm2ppa.conf
                                                      profile
                                                      profile.d/
                                                                         python3.10/
                  perl/
                                    polkit-1/
passwd pki/ ppp/
mohammed@mohammed:~$ tail /etc/passwd
passwd
                                                       protocols
gnome-initial-setup:x:126:65534::/run/gnome-initial-setup/:/bin/false
hplip:x:127:7:HPLIP system user,,,:/run/hplip:/bin/false
gdm:x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
mohammed:x:1000:1000:mohammed,,,:/home/mohammed:/bin/bash
_flatpak:x:129:138:Flatpak system-wide installation helper,,,:/nonexistent:/usr/
sbin/nologin
mark:x:1001:1003::/home/mark:/bin/sh
zezo:x:1002:1004::/home/zezo:/bin/sh
youName:x:1004:1007:fadyAssigment,2032,,:/home/youName:/bin/bash
anas:x:1003:1005:anas,2032,01015986302,5555555,0:/home/anas:/bin/bash
ahmed:x:1005:30001::/<u>h</u>ome/ahmed:/bin/sh
mohammed@mohammed:~$
```

