# Linux Final Project – Bari Finkelshtien – Course 69

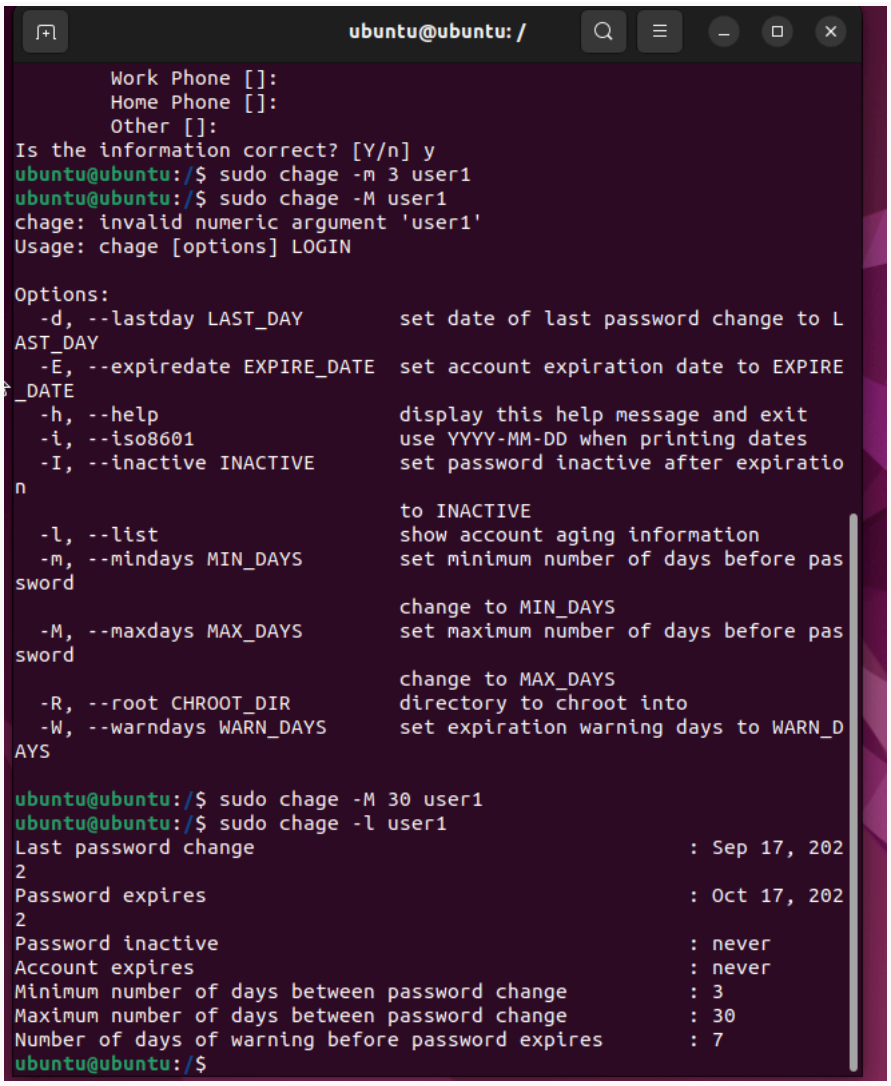
1.יצר את המבנה התיקיות הבא בהתאם לדרישות :

```
ubuntu@ubuntu:/$ ls /support/
support1  support2  support3
ubuntu@ubuntu:/$
```

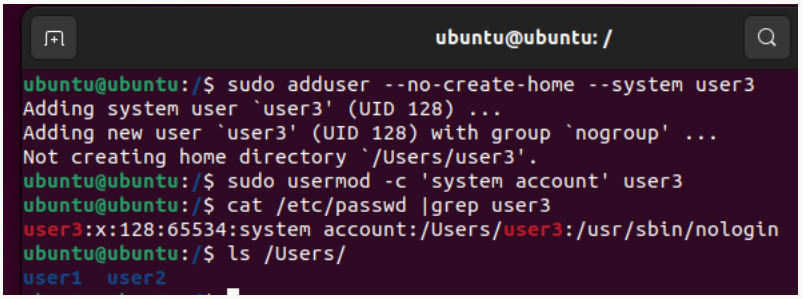
c .משתמש user2 תהיה הגדרת חשבון במצב expire בתאריך 20/12/3

```
ubuntu@ubuntu: /
ubuntu@ubuntu:/$ sudo adduser user2
Adding user `user2' ...
Adding new group `user2' (1004) ...
Adding new user `user2' (1004) with group `user2' ...
Creating home directory `/Users/user2' ...
Copying files from `/etc/skel' ...
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for user2
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
ubuntu@ubuntu:/$ sudo chage -E 2022-12-31 user2
ubuntu@ubuntu:/$ chage -l user2
chage: Permission denied.
ubuntu@ubuntu:/$ sudo chage -l user2
Last password change                                    : Sep 17, 2022
Password expires                                        : never
Password inactive                                       : never
Account expires                                         : Dec 31, 2022
Minimum number of days between password change          : 0
Maximum number of days between password change          : 99999
Number of days of warning before password expires       : 7
ubuntu@ubuntu:/$
```

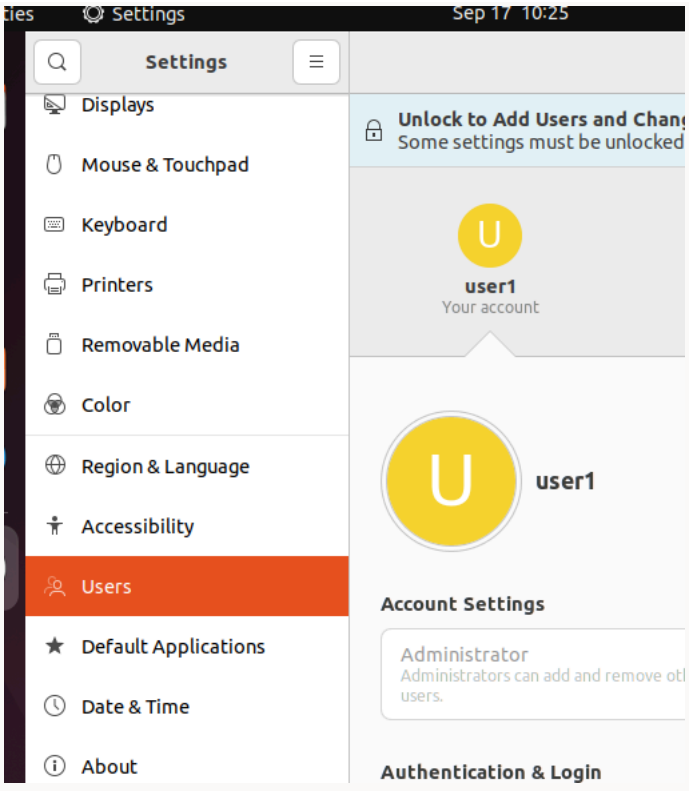
d .משתמש user1 תהיה הגדרת חשבון המחייבת לשנות את הסיסמא אחרי 30 יום ולא לפני 3 ימים.

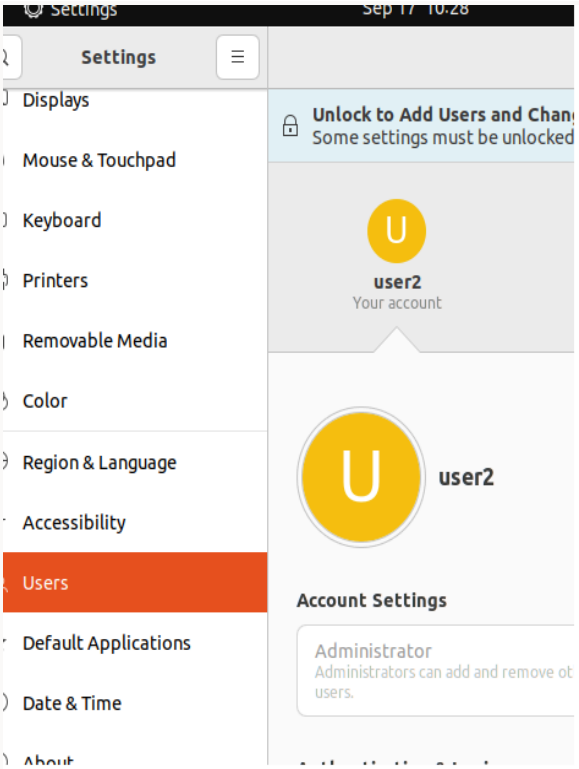



e. משתמש בשם user3 יהיה משתמש מערכת ללא תיקיית בית וללא shell , יש להוסיף הערה "system account" ב

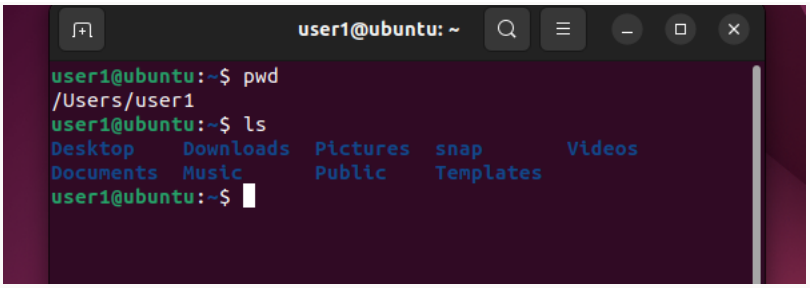


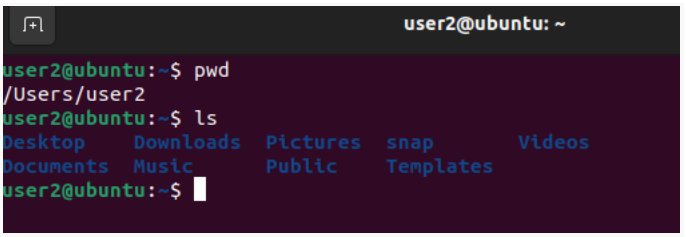

4. בצע Login למשתמשים בממשק ה gui ובדוק כי ניתן להכנס למערכת ונוצר פרופיל בהתאמה

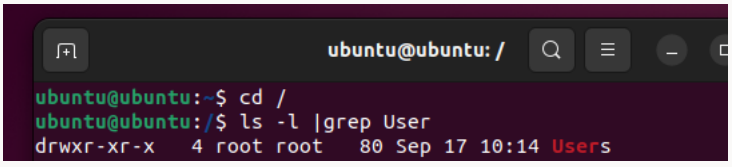

Settings
Sep 17 10:25
Settings
Displays
Mouse & Touchpad
Keyboard
Printers
Removable Media
Color
Region & Language
Accessibility
Users
Default Applications
Date & Time
About
Unlock to Add Users and Chang
Some settings must be unlocked
U
user1
Your account
U
user1
Account Settings
Administrator
Administrators can add and remove otl
users.
Authentication & Login


Settings
Sep 17 10:28
Settings
Displays
Mouse & Touchpad
Keyboard
Printers
Removable Media
Color
Region & Language
Accessibility
Users
Default Applications
Date & Time
About
Unlock to Add Users and Chang
Some settings must be unlocked
U
user2
Your account
U
user2
Account Settings
Administrator
Administrators can add and remove ot
users.

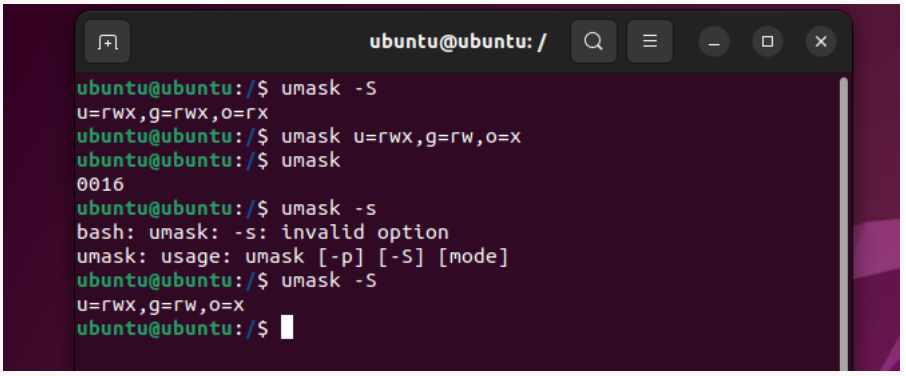
הצג כי תיקיות הבית של המשתמשים נוצרו בהתאמה תחת הנתיב הייעודי כפי שהתבקש בסעיף 1 בעזרת פקודת סינון המציגה בלבד את המשתמשים user1 ו u



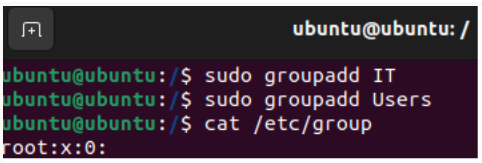



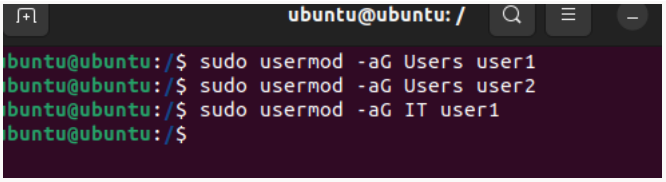




5 .הגדר שינוי הרשאות בברירת המחדל בכל הקשור ליצירת קבצים חדשים, כך שאוטומטית תהיה הרשאות הבאות: a .לבעלי הקבצים )user )תיוצר הרשאה מסוג RWX b .לקבוצה )group )הרשאה מסוג RW c .ולאחרים )others )הרשאה מסוג X

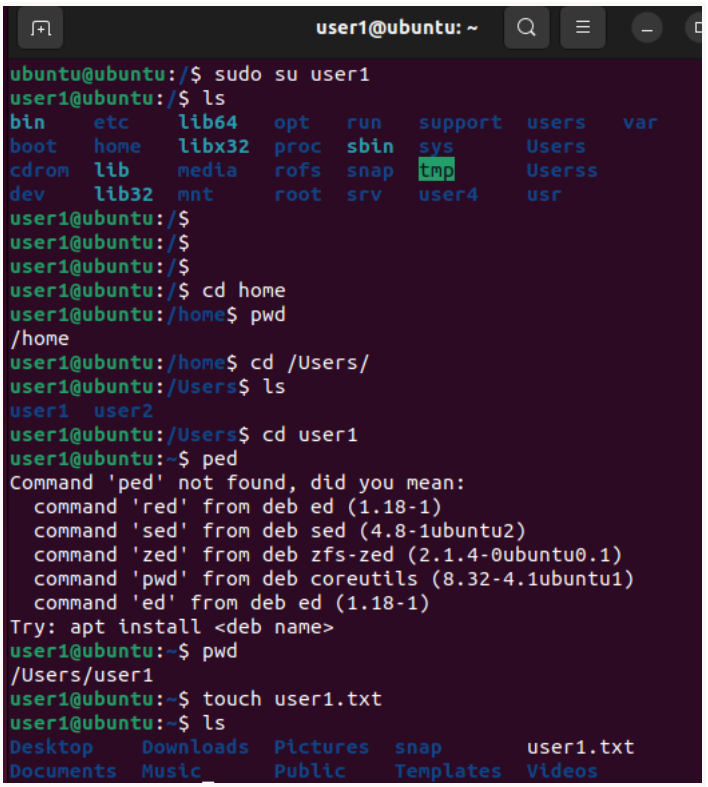


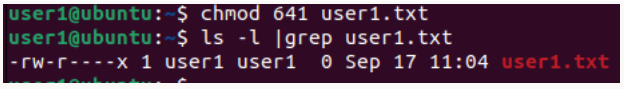

a .קבוצת IT | ובה יהיה חבר משתמש u


ubuntu@ubuntu: /
ubuntu@ubuntu:/$ sudo groupadd IT
ubuntu@ubuntu:/$ sudo groupadd Users
ubuntu@ubuntu:/$ cat /etc/group
root:x:0:


ubuntu@ubuntu: /
ubuntu@ubuntu:/$ sudo usermod -aG Users user1
ubuntu@ubuntu:/$ sudo usermod -aG Users user2
ubuntu@ubuntu:/$ sudo usermod -aG IT user1
ubuntu@ubuntu:/$

7. היכנס כמשתמש בשם user1 ייצר קובץ בתיקיית הבית בשם txt.user1 ייצר הרשאה לקובץ בצורה אוקטלית את הערכים הבאים : a. לבעלי הקבצים (user) תיוצר הרשאה מסוג RW b. לקבוצה (group) הרשאה מסוג R. c ולאחרים (others) הרשאה מסוג X. d. יש לתת הרשאה לקבוצת users לקובץ זה.




8. ייצר משתמש בשם user4 a. הוסף משתמש זה לקבוצת users וקבוצת IT b. הצג כי המשתמש חבר בקבוצות אלה c. הכנס לקובץ group/etc/ והצג את הקבוצות שנוצרו עד כה ומי החברים בהם. d. העתק את הקבצים הבאים לתיקיית Documents בעזרת סקריפט /ii. /etc/group i. /etc/passwd /

```
ubuntu@ubuntu:/$ sudo adduser user4
Adding user `user4' ...
Adding new group `user4' (1007) ...
Adding new user `user4' (1005) with group `user4' ...
Creating home directory `/Users/user4' ...
Copying files from `/etc/skel' ...
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for user4
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
ubuntu@ubuntu:/$ sudo usermod -aG Users user4
ubuntu@ubuntu:/$ sudo usermod -aG IT user4
ubuntu@ubuntu:/$ cat/etc/group
bash: cat/etc/group: No such file or directory
ubuntu@ubuntu:/$ cat /etc/group
root:x:0:
```

```
user2:x:1004:
IT:x:1005:user1,user4
Users:x:1006:user1,user2,user4
user4:x:1007:
ubuntu@ubuntu:/$
```

d. העתק את הקבצים הבאים לתיקיית Documents בעזרת סקריפט

```
ubuntu@ubuntu:/$ sudo touch copy.sh
ubuntu@ubuntu:/$ sudo nano copy.sh
ubuntu@ubuntu:/$ sudo chmod 777 copy.sh
ubuntu@ubuntu:/$ sudo /copy.sh
cp: cannot stat '/etc/network/interfaces': No such file or directory
ubuntu@ubuntu:/$ sudo ls -l /Users/user1/Documents
total 8
-rw-r--r-- 1 root root 1206 Sep 17 11:15 group
-rw-r--r-- 1 root root 3138 Sep 17 11:15 passwd
```

9. ייצא את כל המשתמשים בסביבה מהקובץ passwd/etc/ לקובץ בשם csv.users בפורמט מפריד של פסיק בין עמודה לעמודה

```
ubuntu@ubuntu:~$ cat /etc/passwd |cut -d ":" -f1,2 --output-delimiter=",">
users.csv
ubuntu@ubuntu:~$ cat users.scv
root,x
daemon,x
bin,x
sys,x
sync,x
games,x
man,x
lp,x
mail,x
news,x
uucp,x
proxy,x
www-data,x
backup,x
list,x
irc,x
gnats,x
nobody,x
systemd-network,x
systemd-resolve,x
messagebus,x
systemd-timesync,x
syslog,x
_apt,x
tss,x
uuidd,x
systemd-oom,x
tcpdump,x
avahi-autoipd,x
usbmux,x
```

0 .הכנס כמשתמש user1 ובצע את הפעולות הבאות : user1.txt-user10.txt בשם בהתאמה קבצים 10 יצר. a b .הוסף את הטקסט "never say never" לכל הקבצים שנוצרו בסעיף הקודם. c .הצג את כל הקבצים שנוצרו ומיין אותם לפי העמודה החמישית. d .הדפס את כל שמות הקבצים שנוצרו בקובץ כולל בשם txt.files e .בצע סיכום כולל המציג מהי גודלה של כל תיקייה בתיקיית הבית של משתמש זה.

```
user1@ubuntu: /home/ubuntu
ubuntu@ubuntu:~$ sudo su user1
user1@ubuntu:/home/ubuntu$
```

```
user1@ubuntu:~$ mkdir neversaynever
user1@ubuntu:~$ ls
Desktop    Downloads  neversaynever  Public  Templates  Videos
Documents  Music      Pictures       snap    user1.txt
```

```
user1@ubuntu:~$ touch user{1..10}.txt
user1@ubuntu:~$ ls
Desktop    neversaynever  Templates   user3.txt  user7.txt
Documents  Pictures       user10.txt  user4.txt  user8.txt
Downloads  Public         user1.txt   user5.txt  user9.txt
Music      snap           user2.txt   user6.txt  Videos
user1@ubuntu:~$
```

```
 GNU nano 6.2                                  user1.txt
never say never
```

```
user1@ubuntu:~$ nano user1.txt
user1@ubuntu:~$ cat user7.txt
never say never
```

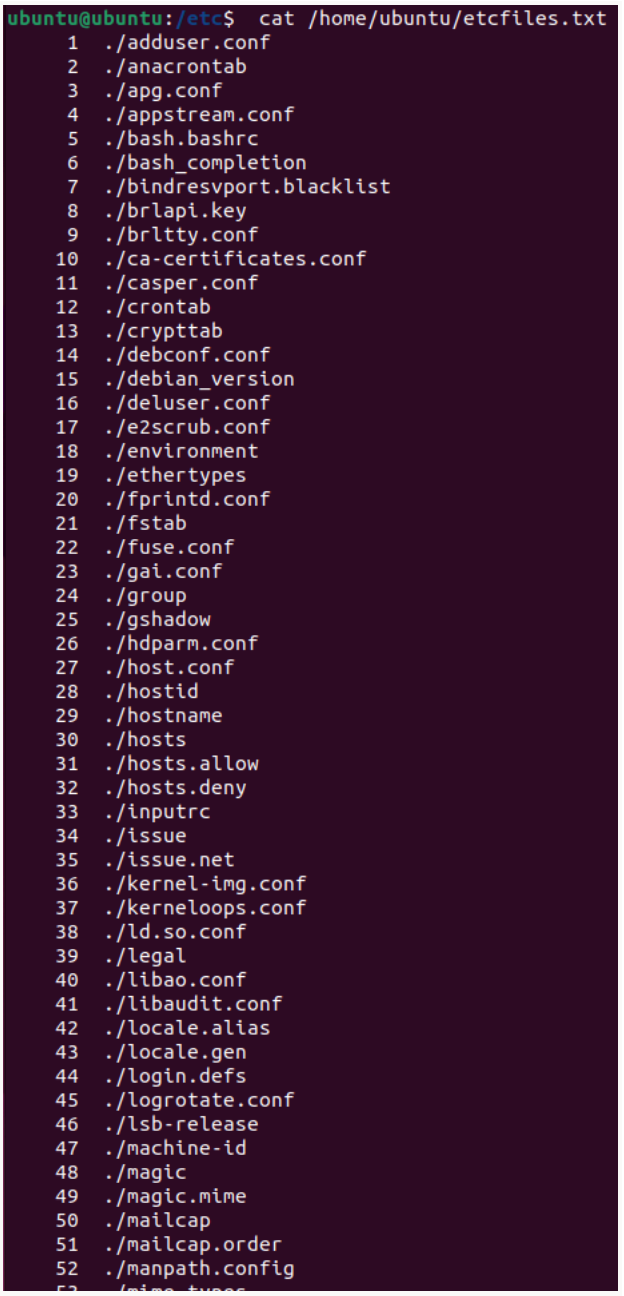
```
user1@ubuntu:~/neversaynever$ ls -l
total 40
-rw-rw-r-- 1 root root 16 Sep 17 12:09 user10.txt
-rw-r----x 1 root root 16 Sep 17 12:09 user1.txt
-rw-rw-r-- 1 root root 16 Sep 17 12:09 user2.txt
-rw-rw-r-- 1 root root 16 Sep 17 12:09 user3.txt
-rw-rw-r-- 1 root root 16 Sep 17 12:09 user4.txt
-rw-rw-r-- 1 root root 16 Sep 17 12:09 user5.txt
-rw-rw-r-- 1 root root 16 Sep 17 12:09 user6.txt
-rw-rw-r-- 1 root root 16 Sep 17 12:09 user7.txt
-rw-rw-r-- 1 root root 16 Sep 17 12:09 user8.txt
-rw-rw-r-- 1 root root 16 Sep 17 12:09 user9.txt
user1@ubuntu:~/neversaynever$ ls -l | cut -d" " -f5

16
16
16
16
16
16
16
16
16
16
user1@ubuntu:~/neversaynever$
```

```
user1@ubuntu:~/neversaynever$ ls > files.txt
user1@ubuntu:~/neversaynever$ ls
files.txt   user1.txt  user3.txt  user5.txt  user7.txt  user9.txt
user10.txt  user2.txt  user4.txt  user6.txt  user8.txt
user1@ubuntu:~/neversaynever$ cat files.txt
files.txt
user10.txt
user1.txt
user2.txt
user3.txt
user4.txt
user5.txt
user6.txt
user7.txt
user8.txt
user9.txt
user1@ubuntu:~/neversaynever$
```

```
user1@ubuntu:~$ ls -l | tr -s " " | cut -d " " -f 5,9

40 Desktop
80 Documents
40 Downloads
40 Music
260 neversaynever
60 Pictures
40 Public
60 snap
40 Templates
16 user10.txt
16 user1.txt
16 user2.txt
16 user3.txt
16 user4.txt
16 user5.txt
16 user6.txt
16 user7.txt
16 user8.txt
16 user9.txt
40 Videos
user1@ubuntu:~$
```

1. הצג את כל הקבצים הנמצאים בתיקיית etc( /בראש התיקייה בלבד ללא תיקיית הבנות( a. סנן מתוך הרשימה אך ורק את הקבצים מסוג file ascii בלבד b. בצע מיון הקבצים לפי שם בסדר עולה c. הדפס את הפלט

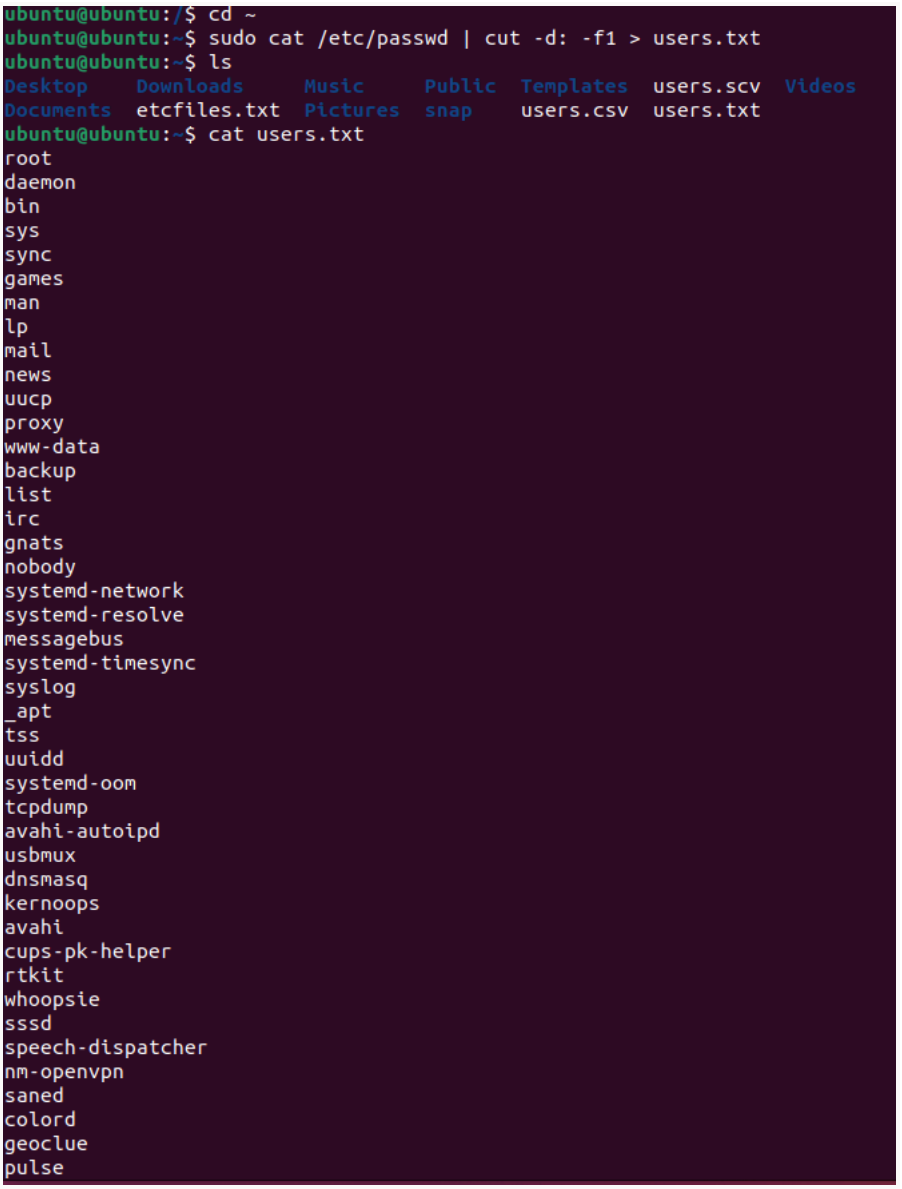
לתוך קובץ בשם txt.etcfiles כאשר יש מספור לכל שורה



```
ubuntu@ubuntu:/etc$ sudo find . -maxdepth 1 -type f -exec grep -lvIP
'[^[:ascii:]]' {} + | nl | cat > /home/ubuntu/etcfiles.txt
ubuntu@ubuntu:/etc$ nano etcfiles.txt
ubuntu@ubuntu:/etc$  cat /home/ubuntu/etcfiles.txt
     1  ./adduser.conf
     2  ./anacrontab
     3  ./apg.conf
     4  ./appstream.conf
     5  ./bash.bashrc
     6  ./bash_completion
     7  ./bindresvport.blacklist
     8  ./brlapi.key
     9  ./brltty.conf
    10  ./ca-certificates.conf
    11  ./casper.conf
    12  ./crontab
    13  ./crypttab
    14  ./debconf.conf
    15  ./debian_version
    16  ./deluser.conf
    17  ./e2scrub.conf
    18  ./environment
    19  ./ethertypes
    20  ./fprintd.conf
    21  ./fstab
    22  ./fuse.conf
    23  ./gai.conf
    24  ./group
    25  ./gshadow
    26  ./hdparm.conf
    27  ./host.conf
    28  ./hostid
    29  ./hostname
    30  ./hosts
    31  ./hosts.allow
    32  ./hosts.deny
    33  ./inputrc
    34  ./issue
    35  ./issue.net
    36  ./kernel-img.conf
    37  ./kerneloops.conf
    38  ./ld.so.conf
    39  ./legal
    40  ./libao.conf
    41  ./libaudit.conf
    42  ./locale.alias
    43  ./locale.gen
    44  ./login.defs
    45  ./logrotate.conf
    46  ./lsb-release
    47  ./machine-id
    48  ./magic
    49  ./magic.mime
    50  ./mailcap
```

2. הצג את הקובץ a /etc/passwd. הדפס את העמודה הראשונה בלבד בשם b txt.users. הדפס את העמודה של שם המשתמש ו ה partition shell שלו לקובץ בשם txt.u

```
ubuntu@ubuntu:/etc$ cd /
ubuntu@ubuntu:/$ sudo cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:102:105::/nonexistent:/usr/sbin/nologin
systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
syslog:x:104:111::/home/syslog:/usr/sbin/nologin
_apt:x:105:65534::/nonexistent:/usr/sbin/nologin
tss:x:106:112:TPM software stack,,,:/var/lib/tpm:/bin/false
uuidd:x:107:115::/run/uuidd:/usr/sbin/nologin
systemd-oom:x:108:116:systemd Userspace OOM Killer,,,:/run/systemd:/usr/sbin/nologin
tcpdump:x:109:117::/nonexistent:/usr/sbin/nologin
avahi-autoipd:x:110:119:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
usbmux:x:111:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
kernoops:x:113:65534:Kernel Oops Tracking Daemon,,,:/:/usr/sbin/nologin
avahi:x:114:121:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin
cups-pk-helper:x:115:122:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin
rtkit:x:116:123:RealtimeKit,,,:/proc:/usr/sbin/nologin
whoopsie:x:117:124::/nonexistent:/bin/false
sssd:x:118:125:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin
speech-dispatcher:x:119:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
nm-openvpn:x:120:126:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
saned:x:121:128::/var/lib/saned:/usr/sbin/nologin
colord:x:122:129:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
geoclue:x:123:130::/var/lib/geoclue:/usr/sbin/nologin
pulse:x:124:131:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin
gnome-initial-setup:x:125:65534::/run/gnome-initial-setup/:/bin/false
hplip:x:126:7:HPLIP system user,,,:/run/hplip:/bin/false
gdm:x:127:133:Gnome Display Manager:/var/lib/gdm3:/bin/false
ubuntu:x:999:999:Live session user,,,:/home/ubuntu:/bin/bash
User1:x:1000:1000::/home/User1:/bin/sh
User2:x:1001:1001::/home/User2:/bin/sh
```


ubuntu@ubuntu:/$ cd ~
ubuntu@ubuntu:~$ sudo cat /etc/passwd | cut -d: -f1 > users.txt
ubuntu@ubuntu:~$ ls
Desktop Downloads Music Public Templates users.scv Videos
Documents etcfiles.txt Pictures snap users.csv users.txt
ubuntu@ubuntu:~$ cat users.txt
root
daemon
bin
sys
sync
games
man
lp
mail
news
uucp
proxy
www-data
backup
list
irc
gnats
nobody
systemd-network
systemd-resolve
messagebus
systemd-timesync
syslog
_apt
tss
uuidd
systemd-oom
tcpdump
avahi-autoipd
usbmux
dnsmasq
kernoops
avahi
cups-pk-helper
rtkit
whoopsie
sssd
speech-dispatcher
nm-openvpn
saned
colord
geoclue
pulse

```
ubuntu@ubuntu:~$ sudo cat /etc/passwd | cut -d: -f1,7 > /home/ubuntu/users2.txt
ubuntu@ubuntu:~$ cat /home/ubuntu/users2.txt
root:/bin/bash
daemon:/usr/sbin/nologin
bin:/usr/sbin/nologin
sys:/usr/sbin/nologin
sync:/bin/sync
games:/usr/sbin/nologin
man:/usr/sbin/nologin
lp:/usr/sbin/nologin
mail:/usr/sbin/nologin
news:/usr/sbin/nologin
uucp:/usr/sbin/nologin
proxy:/usr/sbin/nologin
www-data:/usr/sbin/nologin
backup:/usr/sbin/nologin
list:/usr/sbin/nologin
irc:/usr/sbin/nologin
gnats:/usr/sbin/nologin
nobody:/usr/sbin/nologin
systemd-network:/usr/sbin/nologin
systemd-resolve:/usr/sbin/nologin
messagebus:/usr/sbin/nologin
systemd-timesync:/usr/sbin/nologin
syslog:/usr/sbin/nologin
_apt:/usr/sbin/nologin
tss:/bin/false
uuidd:/usr/sbin/nologin
systemd-oom:/usr/sbin/nologin
tcpdump:/usr/sbin/nologin
avahi-autoipd:/usr/sbin/nologin
usbmux:/usr/sbin/nologin
dnsmasq:/usr/sbin/nologin
kernoops:/usr/sbin/nologin
avahi:/usr/sbin/nologin
cups-pk-helper:/usr/sbin/nologin
rtkit:/usr/sbin/nologin
whoopsie:/bin/false
sssd:/usr/sbin/nologin
speech-dispatcher:/bin/false
nm-openvpn:/usr/sbin/nologin
saned:/usr/sbin/nologin
colord:/usr/sbin/nologin
geoclue:/usr/sbin/nologin
pulse:/usr/sbin/nologin
gnome-initial-setup:/bin/false
hplip:/bin/false
gdm:/bin/false
```

3. הכנס כמשתמש user2 וייצר את הקבצים הבאים : /etc/passwd לקובץ הפונה password.txt בשם ( symbolic link )דרך קיצור ייצר. a b. ייצר קובץ בשם txt.user2 וכתוב לתוכו את התוכן "user2 welcome" "c לקובץ txt.user2) link hard) ייצר קישור מסוג txt.user3 בשם, הצג כי הלינק נוצר בהצלחה.

```
ubuntu@ubuntu:~$ sudo su user2
user2@ubuntu:/home/ubuntu$ cd ~
user2@ubuntu:~$ ln -s /etc/passwd
user2@ubuntu:~$ ls -l
total 0
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Desktop
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Documents
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Downloads
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Music
lrwxrwxrwx 1 user2 user2 11 Sep 17 13:12 passwd -> /etc/passwd
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Pictures
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Public
drwx------ 3 user2 user2 60 Sep 17 10:27 snap
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Templates
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Videos
user2@ubuntu:~$ echo "welcome Mr user2" > user2.txt
user2@ubuntu:~$ ls
Desktop    Downloads  passwd    Public  Templates  Videos
Documents  Music      Pictures  snap    user2.txt
user2@ubuntu:~$ cat user2.txt
welcome Mr user2
user2@ubuntu:~$ ln user2.txt user3.txt
user2@ubuntu:~$ ls
Desktop    Downloads  passwd    Public  Templates  user3.txt
Documents  Music      Pictures  snap    user2.txt  Videos
user2@ubuntu:~$ ls -l
total 8
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Desktop
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Documents
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Downloads
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Music
lrwxrwxrwx 1 user2 user2 11 Sep 17 13:12 passwd -> /etc/passwd
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Pictures
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Public
drwx------ 3 user2 user2 60 Sep 17 10:27 snap
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Templates
-rw-rw-r-- 2 user2 user2 17 Sep 17 13:13 user2.txt
-rw-rw-r-- 2 user2 user2 17 Sep 17 13:13 user3.txt
drwxr-xr-x 2 user2 user2 40 Sep 17 10:27 Videos
user2@ubuntu:~$ cat user3.txt
welcome Mr user2
user2@ubuntu:~$
```

4 .ייצר תחת תיקיית support 3 תיקיות support3-support1 בהתאמה בפקודה אחת. a .לאחר מכן מחק את כל תיקיות הבנות support3-s

```
ubuntu@ubuntu:~$ cd /
ubuntu@ubuntu:/$ ls
bin    copy.sh  home   lib64   mnt   rofs  sbin  support  user4  Userss
boot   dev      lib    libx32  opt   root  snap  sys      users  usr
cdrom  etc      lib32  media   proc  run   srv   tmp      Users  var
ubuntu@ubuntu:/$ cd /support
ubuntu@ubuntu:/support$ ls
support1  support2  support3
ubuntu@ubuntu:/support$ sudo rm -r support*
ubuntu@ubuntu:/support$ ls
ubuntu@ubuntu:/support$
```

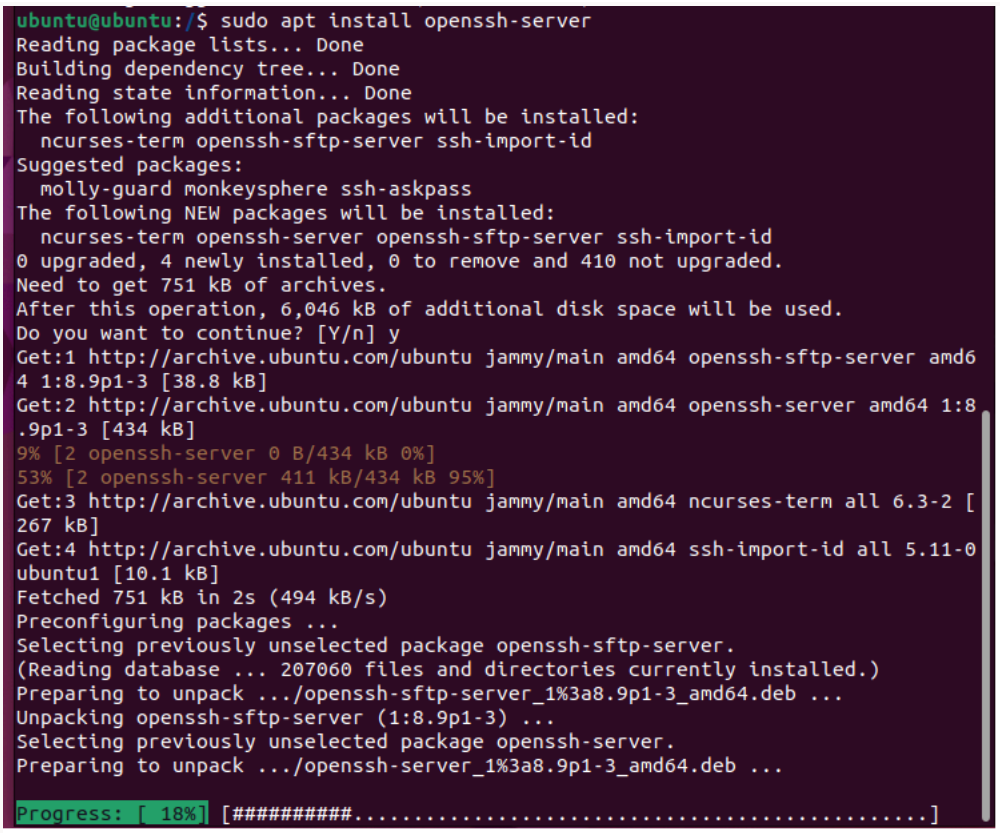
5 .מצא את כל הקבצים בתיקיית tmp /הגדולים מ 3 ימים מהתאריך הנוכחי ומחק אותם.

```
ubuntu@ubuntu:~$ sudo ls -laRt /tmp
/tmp:
total 16
drwx------  2 user2  user2   40 Sep 17 13:15 tracker-extract-3-files.1004
drwx------  2 ubuntu ubuntu  40 Sep 17 13:09 tracker-extract-3-files.999
drwxrwxrwt 23 root   root   560 Sep 17 12:25 .
drwx------  2 user1  user1   40 Sep 17 12:09 tracker-extract-3-files.1003
drwxr-xr-x  1 root   root   340 Sep 17 11:14 ..
drwxrwxrwt  2 root   root   140 Sep 17 10:34 .X11-unix
drwxrwxrwt  2 root   root   220 Sep 17 10:34 .ICE-unix
-r--r--r--  1 user2  user2   11 Sep 17 10:27 .X4-lock
-r--r--r--  1 user2  user2   11 Sep 17 10:27 .X5-lock
drwx------  2 gdm    gdm     40 Sep 17 10:24 tracker-extract-3-files.127
-r--r--r--  1 user1  user1   11 Sep 17 10:24 .X2-lock
-r--r--r--  1 user1  user1   11 Sep 17 10:24 .X3-lock
drwx------  3 root   root    60 Sep 17 09:07 systemd-private-e0be7cc7b3c2467b82f3d383373eaf14-c
olord.service-A9qVPf
-rw-------  1 ubuntu ubuntu   0 Sep 17 09:07 gdm3-config-err-jPYdjD
drwx------  3 root   root    60 Sep 17 09:07 snap.snapd-desktop-integration
drwx------  3 root   root    60 Sep 17 09:07 snap.snap-store
drwx------  3 root   root    60 Sep 17 09:07 snap.firefox
drwx------  3 root   root    60 Sep 17 09:07 systemd-private-e0be7cc7b3c2467b82f3d383373eaf14-u
power.service-iote7b
drwx------  3 root   root    60 Sep 17 09:06 systemd-private-e0be7cc7b3c2467b82f3d383373eaf14-M
odemManager.service-MVtjOY
drwx------  3 root   root    60 Sep 17 09:06 systemd-private-e0be7cc7b3c2467b82f3d383373eaf14-s
ystemd-logind.service-gtV12P
drwx------  3 root   root    60 Sep 17 09:06 systemd-private-e0be7cc7b3c2467b82f3d383373eaf14-s
witcheroo-control.service-VxCuti
drwx------  3 root   root    60 Sep 17 09:06 systemd-private-e0be7cc7b3c2467b82f3d383373eaf14-p
ower-profiles-daemon.service-4KpjKo
drwx------  3 root   root    60 Sep 17 09:06 systemd-private-e0be7cc7b3c2467b82f3d383373eaf14-s
ystemd-timesyncd.service-rPKae0
drwx------  3 root   root    60 Sep 17 09:06 systemd-private-e0be7cc7b3c2467b82f3d383373eaf14-s
ystemd-resolved.service-Y4iq0e
drwx------  3 root   root    60 Sep 17 09:06 systemd-private-e0be7cc7b3c2467b82f3d383373eaf14-s
ystemd-oomd.service-ZcC07k
drwxrwxrwt  2 root   root    40 Sep 17 09:06 .font-unix
drwxrwxrwt  2 root   root    40 Sep 17 09:06 .Test-unix
drwxrwxrwt  2 root   root    40 Sep 17 09:06 .XIM-unix

/tmp/tracker-extract-3-files.1004:
total 0
drwx------  2 user2 user2  40 Sep 17 13:15 .
drwxrwxrwt 23 root  root  560 Sep 17 12:25 ..

/tmp/tracker-extract-3-files.999:
total 0
```

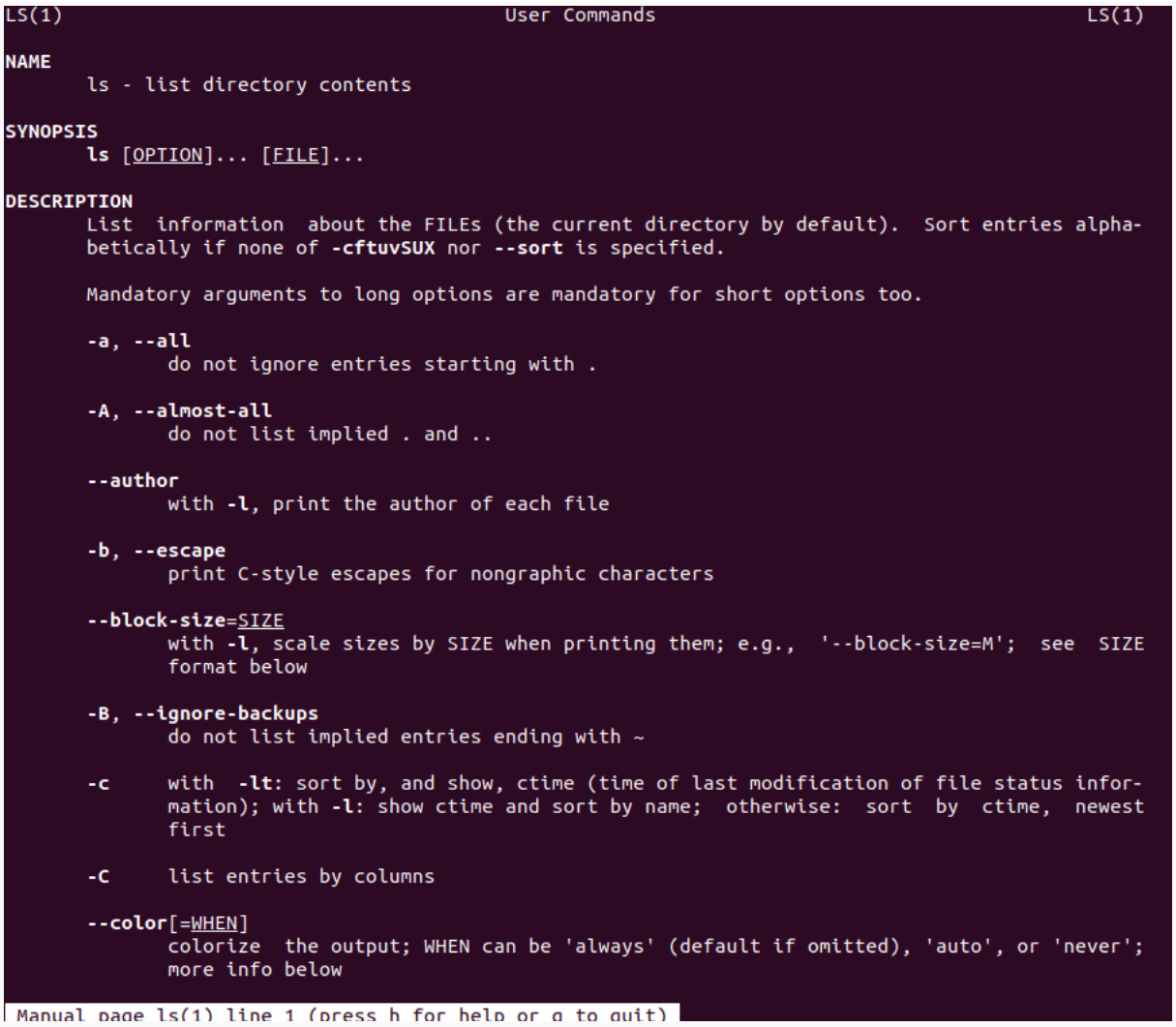
```
ubuntu@ubuntu:/Users$ sudo find . -name "*.txt"
./user2/user3.txt
./user2/user2.txt
./user2/.cache/tracker3/files/last-crawl.txt
./user2/.cache/tracker3/files/first-index.txt
./user1/user10.txt
./user1/user9.txt
./user1/user8.txt
./user1/user7.txt
./user1/user6.txt
./user1/user5.txt
./user1/user4.txt
./user1/user3.txt
./user1/user2.txt
./user1/neversaynever/files.txt
./user1/neversaynever/user10.txt
./user1/neversaynever/user9.txt
./user1/neversaynever/user8.txt
./user1/neversaynever/user7.txt
./user1/neversaynever/user6.txt
./user1/neversaynever/user5.txt
./user1/neversaynever/user4.txt
./user1/neversaynever/user3.txt
./user1/neversaynever/user2.txt
./user1/neversaynever/user1.txt
./user1/user1.txt
./user1/.cache/tracker3/files/last-crawl.txt
./user1/.cache/tracker3/files/first-index.txt
```

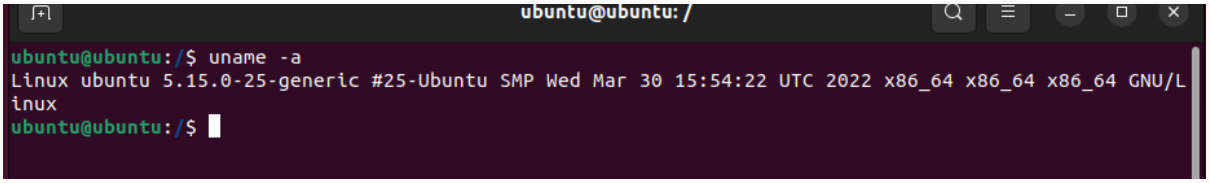
7. התקן את היישומים הבאים בהתאמה : a. Open-vm-tools b. Tree c. Openssh-server

```
ubuntu@ubuntu:/$ sudo apt install open-vm-tools
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  ethtool libmspack0 libxmlsec1-openssl zerofree
Suggested packages:
  open-vm-tools-desktop cloud-init
The following NEW packages will be installed:
  ethtool libmspack0 libxmlsec1-openssl open-vm-tools zerofree
0 upgraded, 5 newly installed, 0 to remove and 410 not upgraded.
Need to get 1,054 kB of archives.
After this operation, 4,168 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu jammy/main amd64 libmspack0 amd64 0.10.1-
2build2 [39.6 kB]
Get:2 http://security.ubuntu.com/ubuntu jammy-security/main amd64 open-vm-tools
amd64 2:11.3.5-1ubuntu4.1 [713 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy/main amd64 libxmlsec1-openssl amd64
 1.2.33-1build2 [85.5 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy/main amd64 ethtool amd64 1:5.16-1 [
208 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy/main amd64 zerofree amd64 1.1.1-1bu
ild3 [8,814 B]
Fetched 1,054 kB in 3s (396 kB/s)
Selecting previously unselected package libmspack0:amd64.
(Reading database ... 206895 files and directories currently installed.)
Preparing to unpack .../libmspack0_0.10.1-2build2_amd64.deb ...
Unpacking libmspack0:amd64 (0.10.1-2build2) ...
Selecting previously unselected package libxmlsec1-openssl:amd64.
Preparing to unpack .../libxmlsec1-openssl_1.2.33-1build2_amd64.deb ...
Unpacking libxmlsec1-openssl:amd64 (1.2.33-1build2) ...
Selecting previously unselected package open-vm-tools.
Preparing to unpack .../open-vm-tools_2%3a11.3.5-1ubuntu4.1_amd64.deb ...
Unpacking open-vm-tools (2:11.3.5-1ubuntu4.1) ...
Selecting previously unselected package ethtool.
Preparing to unpack .../ethtool_1%3a5.16-1_amd64.deb ...
Unpacking ethtool (1:5.16-1) ...
Selecting previously unselected package zerofree.
Preparing to unpack .../zerofree_1.1.1-1build3_amd64.deb ...
Unpacking zerofree (1.1.1-1build3) ...
```




9. הצג את גרסת מערכת ההפעלה a. הצג את מאפייני מערכת ההפעלה ( environment global) b. הצג 2 פקודות עזרה המסבירות על הפקודה ls.


LS(1) User Commands LS(1)
NAME
ls - list directory contents
SYNOPSIS
ls [OPTION]... [FILE]...
DESCRIPTION
List information about the FILEs (the current directory by default). Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.
Mandatory arguments to long options are mandatory for short options too.
-a, --all
do not ignore entries starting with .
-A, --almost-all
do not list implied . and ..
--author
with -l, print the author of each file
-b, --escape
print C-style escapes for nongraphic characters
--block-size=SIZE
with -l, scale sizes by SIZE when printing them; e.g., '--block-size=M'; see SIZE format below
-B, --ignore-backups
do not list implied entries ending with ~
-c with -lt: sort by, and show, ctime (time of last modification of file status information); with -l: show ctime and sort by name; otherwise: sort by ctime, newest first
-C list entries by columns
--color[=WHEN]
colorize the output; WHEN can be 'always' (default if omitted), 'auto', or 'never'; more info below
Manual page ls(1) line 1 (press h for help or q to quit)


ubuntu@ubuntu: /
ubuntu@ubuntu:/$ uname -a
Linux ubuntu 5.15.0-25-generic #25-Ubuntu SMP Wed Mar 30 15:54:22 UTC 2022 x86_64 x86_64 x86_64 GNU/Linux
ubuntu@ubuntu:/$

```
ubuntu@ubuntu:/$ man ls
ubuntu@ubuntu:/$ ls --help
Usage: ls [OPTION]... [FILE]...
List information about the FILEs (the current directory by default).
Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

Mandatory arguments to long options are mandatory for short options too.
  -a, --all                  do not ignore entries starting with .
  -A, --almost-all           do not list implied . and ..
      --author               with -l, print the author of each file
  -b, --escape               print C-style escapes for nongraphic characters
      --block-size=SIZE      with -l, scale sizes by SIZE when printing them;
                               e.g., '--block-size=M'; see SIZE format below
  -B, --ignore-backups       do not list implied entries ending with ~
  -c                         with -lt: sort by, and show, ctime (time of last
                               modification of file status information);
                               with -l: show ctime and sort by name;
                               otherwise: sort by ctime, newest first
  -C                         list entries by columns
      --color[=WHEN]         colorize the output; WHEN can be 'always' (default
                               if omitted), 'auto', or 'never'; more info below
  -d, --directory            list directories themselves, not their contents
  -D, --dired                generate output designed for Emacs' dired mode
  -f                         do not sort, enable -aU, disable -ls --color
  -F, --classify             append indicator (one of */=>@|) to entries
      --file-type            likewise, except do not append '*'
      --format=WORD          across -x, commas -m, horizontal -x, long -l,
                               single-column -1, verbose -l, vertical -C
      --full-time            like -l --time-style=full-iso
  -g                         like -l, but do not list owner
      --group-directories-first
                             group directories before files;
                               can be augmented with a --sort option, but any
                               use of --sort=none (-U) disables grouping
  -G, --no-group             in a long listing, don't print group names
  -h, --human-readable       with -l and -s, print sizes like 1K 234M 2G etc.
      --si                   likewise, but use powers of 1000 not 1024
  -H, --dereference-command-line
                             follow symbolic links listed on the command line
      --dereference-command-line-symlink-to-dir
                             follow each command line symbolic link
                               that points to a directory
      --hide=PATTERN         do not list implied entries matching shell PATTERN
                               (overridden by -a or -A)
```

20. הצג את מבנה הדיסק של המערכת בשם sda1/dev /המכיל את גודל הדיסק הכללי, מקום תפוס, ומקום פנוי.

```
ubuntu@ubuntu:/$ sudo fdisk -l | grep /dev/sda
Disk /dev/sda: 20 GiB, 21474836480 bytes, 41943040 sectors
/dev/sda1     2048     4095     2048    1M BIOS boot
/dev/sda2     4096  1054719  1050624  513M EFI System
/dev/sda3  1054720 41940991 40886272 19.5G Linux filesystem
ubuntu@ubuntu:/$ lsblk | grep sda
sda       8:0    0    20G  0 disk
├─sda1    8:1    0     1M  0 part
├─sda2    8:2    0   513M  0 part
└─sda3    8:3    0  19.5G  0 part
ubuntu@ubuntu:/$
```