

Поиск файлов. Перенаправление ввода-вывода. Просмотр запущенных процессов

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13 мая, 2021, Москва, Россия

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Цели и задачи работы

Цель лабораторной работы

Ознакомление с инструментами поиска файлов и фильтрации текстовых дан-ных. Приобретение практических навыков: по управлению процессами (и задания-ми), по проверке использования диска и обслуживанию файловых систем.

Задачи лабораторной работы

1. Осуществите вход в систему, используя соответствующее имя пользователя.
2. Запишите в файл `file.txt` названия файлов, содержащихся в каталоге `/etc`. Допишите в этот же файл названия файлов, содержащихся в вашем домашнем каталоге.
3. Выведите имена всех файлов из `file.txt`, имеющих расширение `.conf`, после чего запишите их в новый текстовый файл `conf.txt`.
4. Определите, какие файлы в вашем домашнем каталоге имеют имена, начинающиеся с символа `s`? Предложите несколько вариантов, как это сделать.

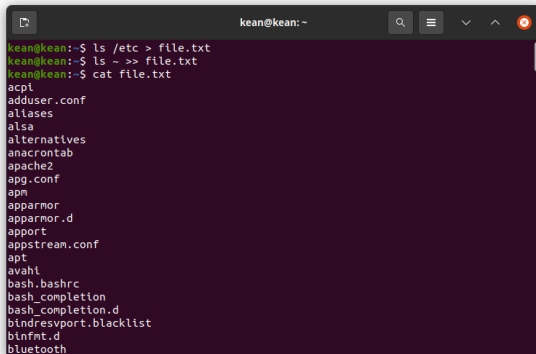
5. Выведите на экран (по странично) имена файлов из каталога/etc, начинающи-еся с символаh.
6. Запустите в фоновом режиме процесс, который будет записывать в файл~/logfileфайлы, имена которых начинаются clog.
7. Удалите файл~/logfile.
8. Запустите из консолив фоновом режимередакторgedit.

Задачи лабораторной работы

9. Определите идентификатор процесса `gedit`, используя команды `ps`, конвейер и фильтр `grep`. Можно ли определить этот идентификатор более простым способом?
10. Прочтите справку (`man`) команды `kill`, после чего используйте её для завершения процесса `gedit`.
11. Выполните команды `dfdu`, предварительно получив более подробную информацию об этих командах, с помощью команды `man`.
12. Воспользовавшись справкой команды `find`, выведите имена всех директорий, имеющих в вашем домашнем каталоге.

Процесс выполнения лабораторной работы

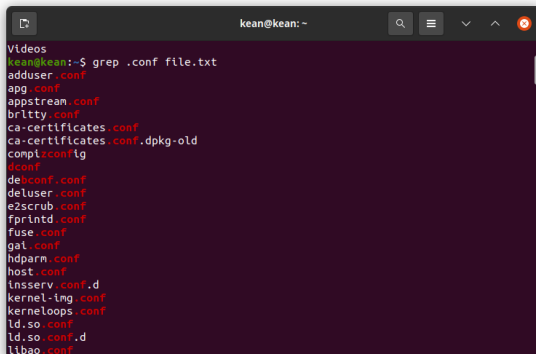
Запись в файл file.txt

A terminal window with a dark purple background and white text. The window title is 'kean@kean: ~'. The terminal shows a sequence of commands: 'ls /etc > file.txt', 'ls ~ >> file.txt', and 'cat file.txt'. The output of the 'cat' command lists various system files and directories from /etc, including acpi, adduser.conf, aliases, alsa, alternatives, anacrontab, apache2, apg.conf, apm, apparmor, apparmor.d, appport, appstream.conf, apt, avahi, bash.bashrc, bash_completion, bash_completion.d, bindresvport.blacklist, binfmt.d, and bluetooth.

```
kean@kean:~$ ls /etc > file.txt
kean@kean:~$ ls ~ >> file.txt
kean@kean:~$ cat file.txt
acpi
adduser.conf
aliases
alsa
alternatives
anacrontab
apache2
apg.conf
apm
apparmor
apparmor.d
appport
appstream.conf
apt
avahi
bash.bashrc
bash_completion
bash_completion.d
bindresvport.blacklist
binfmt.d
bluetooth
```

Рис. 1: Запись в файл file.txt

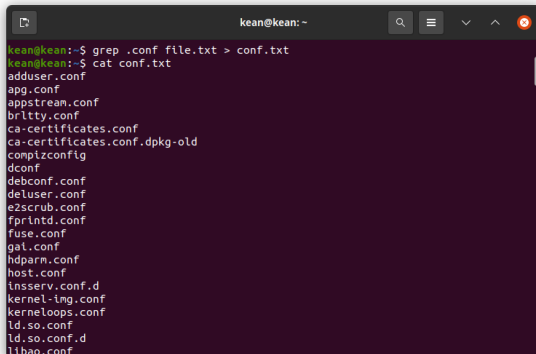
Вывод файл из file.txt имеющих расширение .conf

A terminal window with a dark purple background and light green text. The window title is 'kean@kean: ~'. The command 'grep .conf file.txt' has been executed, resulting in a list of files with the .conf extension. The output is as follows:

```
Videos
kean@kean:~$ grep .conf file.txt
adduser.conf
apg.conf
appstream.conf
brltty.conf
ca-certificates.conf
ca-certificates.conf.dpkg-old
cmplxconfig
dconf
debconf.conf
deluser.conf
e2scrub.conf
fprintd.conf
fuse.conf
gal.conf
hdparm.conf
host.conf
insserv.conf.d
kernel-img.conf
kerneloops.conf
ld.so.conf
ld.so.conf.d
libao.conf
```

Рис. 2: Вывод файл из file.txt имеющих расширение .conf

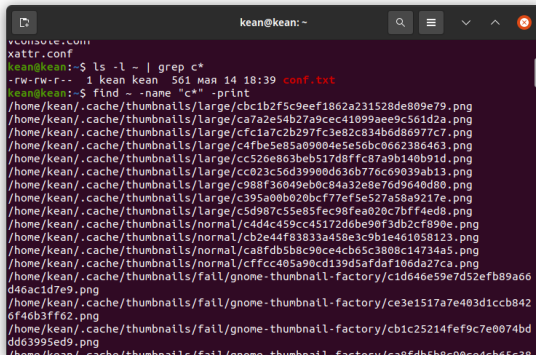
запись имен файл, .conf в файл conf.txt



```
kean@kean: ~  
kean@kean:~$ grep .conf file.txt > conf.txt  
kean@kean:~$ cat conf.txt  
adduser.conf  
apg.conf  
appstream.conf  
brltty.conf  
ca-certificates.conf  
ca-certificates.conf.dpkg-old  
compi3config  
dconf  
debconf.conf  
deluser.conf  
e2scrub.conf  
fprintd.conf  
fuse.conf  
gal.conf  
hdparm.conf  
host.conf  
insserv.conf.d  
kernel-img.conf  
kerneloops.conf  
ld.so.conf  
ld.so.conf.d  
libao.conf
```

Рис. 3: запись имен файл, .conf в файл conf.txt

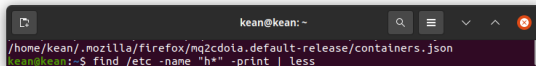
поиск файлоб начинающихся с символа с

A terminal window titled 'kean@kean: ~' with a search icon, a menu icon, and window control buttons. The terminal shows the following commands and output:

```
vcnsole.com
xattr.conf
kean@kean:~$ ls -l ~ | grep c*
-rw-rw-r-- 1 kean kean 561 мая 14 18:39 conf.txt
kean@kean:~$ find ~ -name "c*" -print
/home/kean/.cache/thumbnails/large/cbc1b2f5c9eef1862a231528de809e79.png
/home/kean/.cache/thumbnails/large/ca7a2e54b27a9cec41099aee9c561d2a.png
/home/kean/.cache/thumbnails/large/cfc1a7c2b297fc3e82c834b6d86977c.png
/home/kean/.cache/thumbnails/large/c4fbe5e85a09004e5e56bc0662386463.png
/home/kean/.cache/thumbnails/large/cc526e863beb517d8ffc87a9b140b91d.png
/home/kean/.cache/thumbnails/large/cc023c56d39900d636b776c69039ab13.png
/home/kean/.cache/thumbnails/large/c988f36049eb0c84a32e8e76d9640d80.png
/home/kean/.cache/thumbnails/large/c395a00b020bcf77ef5e527a58a9217e.png
/home/kean/.cache/thumbnails/large/c5d987c55e85fec98fea020c7bfff4ed8.png
/home/kean/.cache/thumbnails/normal/c4d4c459cc45172d6be90f3db2cf890e.png
/home/kean/.cache/thumbnails/normal/cb2e44f83833a458e3c9b1e461058123.png
/home/kean/.cache/thumbnails/normal/ca8fdb5b8c90ce4cb65c3808c14734a5.png
/home/kean/.cache/thumbnails/normal/cffcc405a90cd139d5afdaf106da27ca.png
/home/kean/.cache/thumbnails/fail/gnome-thumbnail-factory/c1d646e59e7d52efb89a66d46ac1d7e9.png
/home/kean/.cache/thumbnails/fail/gnome-thumbnail-factory/ce3e1517a7e403d1ccb8426f46b3ff62.png
/home/kean/.cache/thumbnails/fail/gnome-thumbnail-factory/cb1c25214fef9c7e0074bdd63995ed9.png
/home/kean/.cache/thumbnails/fail/gnome-thumbnail-factory/ca8fdb5b8c90ce4cb65c3808c14734a5.png
```

Рис. 4: поиск файлоб начинающихся с символа с

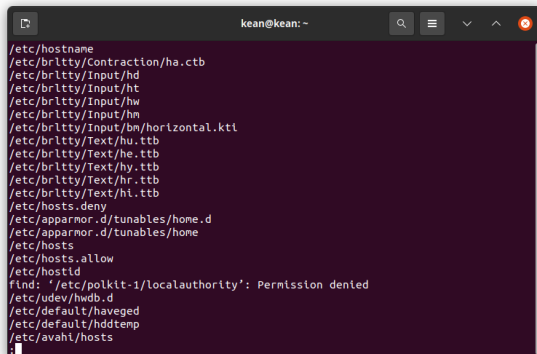
Вывод файлов начинающиеся с символа h

A terminal window with a dark background. The title bar shows 'kean@kean: ~'. The command prompt is 'kean@kean:~\$'. The command entered is 'find /etc -name "h*" -print | less'. The output of the command is visible, showing the path '/home/kean/.mozilla/firefox/mq2cdoia.default-release/containers.json'.

```
kean@kean: ~  
/home/kean/.mozilla/firefox/mq2cdoia.default-release/containers.json  
kean@kean:~$ find /etc -name "h*" -print | less
```

Рис. 5: Вывод файлов начинающиеся с символа h

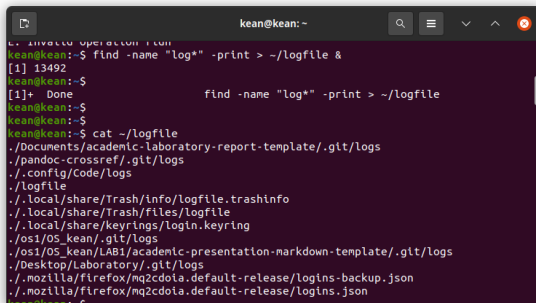
Вывод файлов начинающиеся с символа h

A terminal window with a dark purple background and white text. The window title is 'kean@kean: ~'. It shows the output of a 'find' command, listing various system files and directories that start with the letter 'h'. The list includes files like /etc/hostname, /etc/brltty/Contraction/ha.ctb, /etc/brltty/Input/hd, /etc/brltty/Input/ht, /etc/brltty/Input/hw, /etc/brltty/Input/hm, /etc/brltty/Input/bm/horizontal.kti, /etc/brltty/Text/hu.ttb, /etc/brltty/Text/he.ttb, /etc/brltty/Text/hy.ttb, /etc/brltty/Text/hr.ttb, /etc/brltty/Text/hi.ttb, /etc/hosts.deny, /etc/apparmor.d/tunables/home.d, /etc/apparmor.d/tunables/home, /etc/hosts, /etc/hosts.allow, /etc/hostid, /etc/udev/hwdb.d, /etc/default/haveged, /etc/default/hddtemp, and /etc/avahi/hosts. The command 'find: '/etc/polkit-1/localauthority': Permission denied' is also visible. The prompt ':' is at the bottom left.

```
kean@kean: ~  
/etc/hostname  
/etc/brltty/Contraction/ha.ctb  
/etc/brltty/Input/hd  
/etc/brltty/Input/ht  
/etc/brltty/Input/hw  
/etc/brltty/Input/hm  
/etc/brltty/Input/bm/horizontal.kti  
/etc/brltty/Text/hu.ttb  
/etc/brltty/Text/he.ttb  
/etc/brltty/Text/hy.ttb  
/etc/brltty/Text/hr.ttb  
/etc/brltty/Text/hi.ttb  
/etc/hosts.deny  
/etc/apparmor.d/tunables/home.d  
/etc/apparmor.d/tunables/home  
/etc/hosts  
/etc/hosts.allow  
/etc/hostid  
find: '/etc/polkit-1/localauthority': Permission denied  
/etc/udev/hwdb.d  
/etc/default/haveged  
/etc/default/hddtemp  
/etc/avahi/hosts  
:
```

Рис. 6: Вывод файлов начинающиеся с символа h

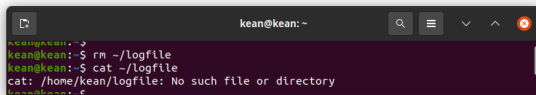
фоновая запись в ~/logfile



```
kean@kean: ~  
kean@kean:~$ find -name "log*" -print > ~/logfile &  
[1] 13492  
kean@kean:~$  
[1]+  Done                  find -name "log*" -print > ~/logfile  
kean@kean:~$  
kean@kean:~$ cat ~/logfile  
./Documents/academic-laboratory-report-template/.git/logs  
./pandoc-crossref/.git/logs  
./config/Code/logs  
./logfile  
./local/share/Trash/info/logfile.trashinfo  
./local/share/Trash/files/logfile  
./local/share/keyrings/login.keyring  
./os1/OS_kean/.git/logs  
./os1/OS_kean/LAB1/academic-presentation-markdown-template/.git/logs  
./Desktop/Laboratory/.git/logs  
./mozilla/firefox/mq2cd0ia.default-release/logins-backup.json  
./mozilla/firefox/mq2cd0ia.default-release/logins.json
```

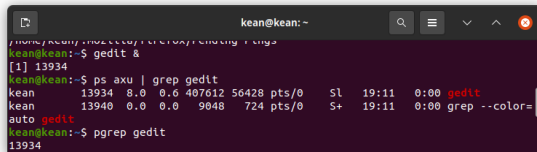
Рис. 7: фоновая запись в ~/logfile

далите файл ~/logfile

A terminal window with a dark purple background. The title bar shows 'kean@kean: ~'. The terminal contains the following text:

```
kean@kean:~$ rm ~/logfile
kean@kean:~$ cat ~/logfile
cat: /home/kean/logfile: No such file or directory
kean@kean:~$
```

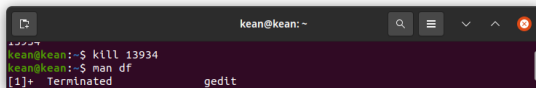
Рис. 8: далите файл ~/logfile



```
kean@kean: ~  
/home/kean/.mozilla/firefox/kean@kean: ~  
kean@kean:~$ gedit &  
[1] 13934  
kean@kean:~$ ps aux | grep gedit  
kean      13934  8.0  0.6 407612 56428 pts/0    Sl   19:11   0:00 gedit  
kean      13940  0.0  0.0   9048   724 pts/0    S+   19:11   0:00 grep --color=  
auto gedit  
kean@kean:~$ pgrep gedit  
13934
```

Рис. 9: gedit

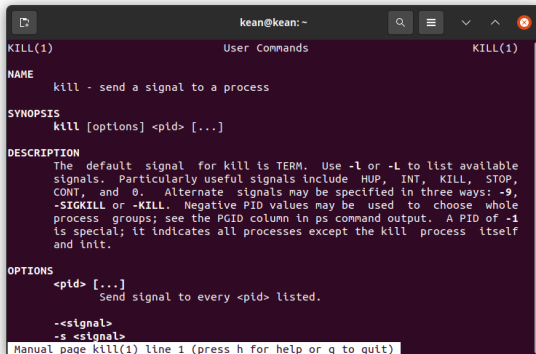
удаление процесса gedit

A terminal window with a dark background and light text. The window title is 'kean@kean: ~'. The terminal shows the following commands and output:

```
kean@kean:~$ kill 13934
kean@kean:~$ man df
[1]+  Terminated                  gedit
```

Рис. 10: удаление процесса gedit

man kill



```
kean@kean: ~
KILL(1)                                User Commands                                KILL(1)

NAME
    kill - send a signal to a process

SYNOPSIS
    kill [options] <pid> [...]

DESCRIPTION
    The default signal for kill is TERM. Use -l or -L to list available
    signals. Particularly useful signals include HUP, INT, KILL, STOP,
    CONT, and 0. Alternate signals may be specified in three ways: -9,
    -SIGKILL or -KILL. Negative PID values may be used to choose whole
    process groups; see the PGID column in ps command output. A PID of -1
    is special; it indicates all processes except the kill process itself
    and init.

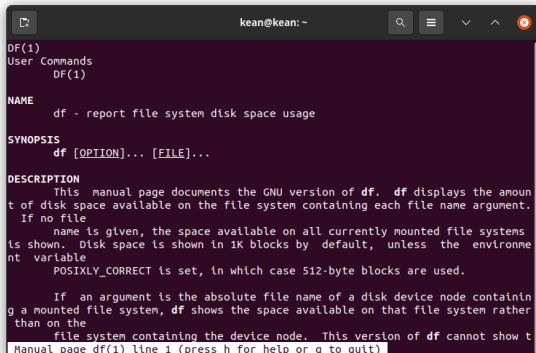
OPTIONS
    <pid> [...]
        Send signal to every <pid> listed.

    -<signal>
    -s <signal>

Manual page kill(1) line 1 (press h for help or q to quit)
```

Рис. 11: man kill

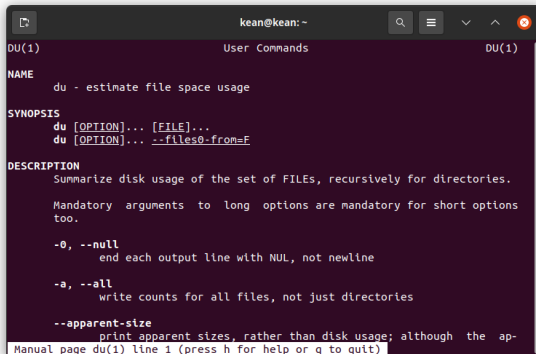
Команд man df



```
kean@kean: ~  
DF(1)  
User Commands  
DF(1)  
  
NAME  
df - report file system disk space usage  
  
SYNOPSIS  
df [OPTION]... [FILE]...  
  
DESCRIPTION  
This manual page documents the GNU version of df. df displays the amount of disk space available on the file system containing each file name argument. If no file name is given, the space available on all currently mounted file systems is shown. Disk space is shown in 1K blocks by default, unless the environment variable POSIXLY_CORRECT is set, in which case 512-byte blocks are used.  
  
If an argument is the absolute file name of a disk device node containing a mounted file system, df shows the space available on that file system rather than on the file system containing the device node. This version of df cannot show t  
Manual page df(1) line 1 (press h for help or q to quit)
```

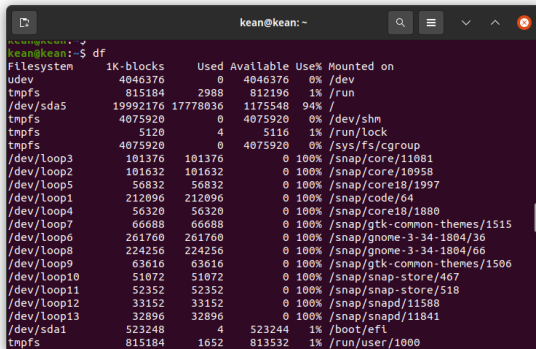
Рис. 12: Команд man df

команд man du



```
kean@kean: ~  
DU(1)                                User Commands                                DU(1)  
  
NAME  
    du - estimate file space usage  
  
SYNOPSIS  
    du [OPTION]... [FILE]...  
    du [OPTION]... --files0-from=F  
  
DESCRIPTION  
    Summarize disk usage of the set of FILES, recursively for directories.  
  
    Mandatory arguments to long options are mandatory for short options too.  
  
    -0, --null  
        end each output line with NUL, not newline  
  
    -a, --all  
        write counts for all files, not just directories  
  
    --apparent-size  
        print apparent sizes, rather than disk usage; although the ap-  
Manual page du(1) line 1 (press h for help or q to quit)
```

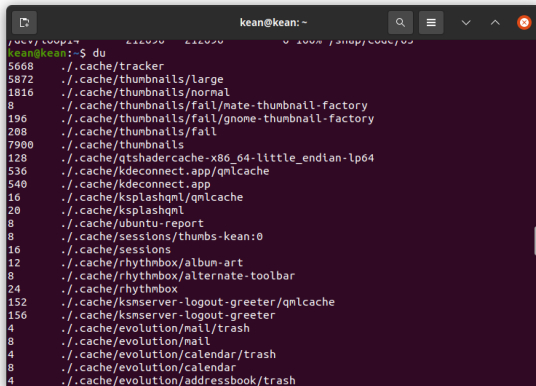
Рис. 13: команд man du



A terminal window titled 'kean@kean: ~' showing the output of the 'df' command. The output is a table with columns: Filesystem, 1K-blocks, Used, Available, Use%, and Mounted on. The table lists various filesystems including udev, tmpfs, /dev/sda5, and several snap filesystems like /snap/core/11081, /snap/core/10958, etc. The /dev/sda5 filesystem is shown to be 94% full.

```
kean@kean:~$ df
Filesystem      1K-blocks    Used Available Use% Mounted on
udev            4046376      0  4046376   0% /dev
tmpfs           815184     2988   812196   1% /run
/dev/sda5       19992176 17778036  1175548  94% /
tmpfs           4075920      0  4075920   0% /dev/shm
tmpfs           5120         4     5116   1% /run/lock
tmpfs           4075920      0  4075920   0% /sys/fs/cgroup
/dev/loop3       101376    101376      0 100% /snap/core/11081
/dev/loop2       101632    101632      0 100% /snap/core/10958
/dev/loop5        56832     56832      0 100% /snap/core18/1997
/dev/loop1       212096    212096      0 100% /snap/code/64
/dev/loop4        56320     56320      0 100% /snap/core18/1880
/dev/loop7        66688     66688      0 100% /snap/gtk-common-themes/1515
/dev/loop6       261760    261760      0 100% /snap/gnome-3-34-1804/36
/dev/loop8       224256    224256      0 100% /snap/gnome-3-34-1804/66
/dev/loop9        63616     63616      0 100% /snap/gtk-common-themes/1506
/dev/loop10       51072     51072      0 100% /snap/snap-store/467
/dev/loop11       52352     52352      0 100% /snap/snap-store/518
/dev/loop12       33152     33152      0 100% /snap/snapd/11588
/dev/loop13       32896     32896      0 100% /snap/snapd/11841
/dev/sda1        523248      4   523244   1% /boot/efi
tmpfs           815184    1652   813532   1% /run/user/1000
```

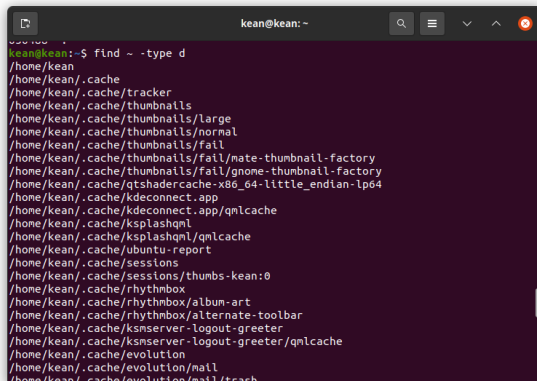
Рис. 14: df

A terminal window titled 'kean@kean: ~' with a search icon, a menu icon, and window control buttons. The terminal shows the command 'du' being executed, resulting in a list of file sizes and paths. The paths are mostly in the '/.cache/' directory, including 'tracker', 'thumbnails', 'qtshadercache', 'kdeconnect.app', 'ksplashqml', 'ubuntu-report', 'sessions', 'rhythmbox', 'ksmserver-logout-greeter', 'evolution', and 'addressbook'. Each line is preceded by a file size in bytes.

```
kean@kean: ~  
$ du  
5668  ./cache/tracker  
5872  ./cache/thumbnails/large  
1816  ./cache/thumbnails/normal  
8     ./cache/thumbnails/fail/mate-thumbnail-factory  
196   ./cache/thumbnails/fail/gnome-thumbnail-factory  
208   ./cache/thumbnails/fail  
7900  ./cache/thumbnails  
128   ./cache/qtshadercache-x86_64-little_endian-lp64  
536   ./cache/kdeconnect.app/qmlcache  
540   ./cache/kdeconnect.app  
16    ./cache/ksplashqml/qmlcache  
20    ./cache/ksplashqml  
8     ./cache/ubuntu-report  
8     ./cache/sessions/thumbs-kean:0  
16    ./cache/sessions  
12    ./cache/rhythmbox/album-art  
8     ./cache/rhythmbox/alternate-toolbar  
24    ./cache/rhythmbox  
152   ./cache/ksmserver-logout-greeter/qmlcache  
156   ./cache/ksmserver-logout-greeter  
4     ./cache/evolution/mail/trash  
8     ./cache/evolution/mail  
4     ./cache/evolution/calendar/trash  
8     ./cache/evolution/calendar  
4     ./cache/evolution/addressbook/trash
```

Рис. 15: du

вывод директорий домашнего каталога

A terminal window with a dark background and light green text. The window title is 'kean@kean: ~'. The command 'find ~ -type d' has been executed, resulting in a list of directories. The output is as follows:

```
kean@kean:~$ find ~ -type d
/home/kean
/home/kean/.cache
/home/kean/.cache/tracker
/home/kean/.cache/thumbnails
/home/kean/.cache/thumbnails/large
/home/kean/.cache/thumbnails/normal
/home/kean/.cache/thumbnails/fail
/home/kean/.cache/thumbnails/fail/mate-thumbnail-factory
/home/kean/.cache/thumbnails/fail/gnome-thumbnail-factory
/home/kean/.cache/qtshadercache-x86_64-little_endian-lp64
/home/kean/.cache/kdeconnect.app
/home/kean/.cache/kdeconnect.app/qmlcache
/home/kean/.cache/ksplashqml
/home/kean/.cache/ksplashqml/qmlcache
/home/kean/.cache/ubuntu-report
/home/kean/.cache/sessions
/home/kean/.cache/sessions/thumbs-kean:0
/home/kean/.cache/rhythmbox
/home/kean/.cache/rhythmbox/album-art
/home/kean/.cache/rhythmbox/alternate-toolbar
/home/kean/.cache/ksmserver-logout-greeter
/home/kean/.cache/ksmserver-logout-greeter/qmlcache
/home/kean/.cache/evolution
/home/kean/.cache/evolution/mail
/home/kean/.cache/evolution/mail/trash
```

Рис. 16: вывод директорий домашнего каталога

Выводы по проделанной работе

Ознакомилась с инструментами поиска файлов и фильтрации текстовых данных. Приобрела практические навыки по управлению процессами (и заданиями), по проверке использования диска и обслуживанию файловых систем.