

Поиск файлов. Перенаправление ввода-вывода. Просмотр запущенных процессов

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11 мая, 2021, Москва, Россия

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Цели и задачи работы

Цель лабораторной работы

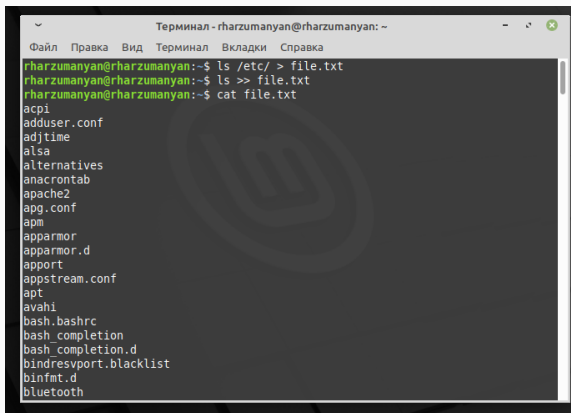
Ознакомление с файловой системой Linux, её структурой, именами и содержанием каталогов. Приобретение практических навыков по применению команд для работы с файлами и каталогами, по управлению процессами, по проверке использования диска и обслуживанию файловой системы.

Задачи лабораторной работы

- 1 Изучить перенаправление ввода-вывода
- 2 Изучить работу фильтров
- 3 Изучить команду поиска
- 4 Ознакомиться с управлением процессами
- 5 Ознакомиться с командами `df` `du`

Процесс выполнения лабораторной работы

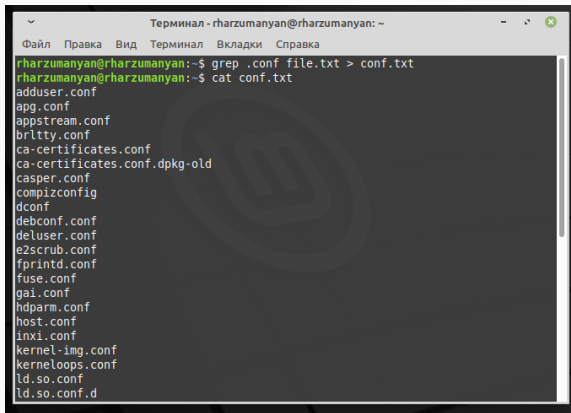
Перенаправление ввода-вывода

A terminal window titled "Терминал - rharzumanyan@rharzumanyan: ~" with a menu bar containing "Файл", "Правка", "Вид", "Терминал", "Вкладки", and "Справка". The terminal shows three commands being executed: "ls /etc/ > file.txt", "ls >> file.txt", and "cat file.txt". The output of the cat command is a list of files in the /etc directory, including acpi, adduser.conf, adjtime, 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.

```
Терминал - rharzumanyan@rharzumanyan: ~
Файл  Правка  Вид  Терминал  Вкладки  Справка
rharzumanyan@rharzumanyan:~$ ls /etc/ > file.txt
rharzumanyan@rharzumanyan:~$ ls >> file.txt
rharzumanyan@rharzumanyan:~$ cat file.txt
acpi
adduser.conf
adjtime
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
```

Figure 1: Запись в файл

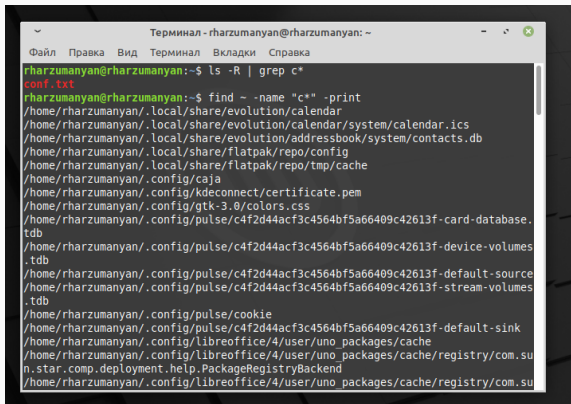
Работа фильтра



The image shows a terminal window titled "Терминал - rharzumanyan@rharzumanyan: ~". The window has a menu bar with "Файл", "Правка", "Вид", "Терминал", "Вкладки", and "Справка". The terminal content shows the following commands and output:

```
rharzumanyan@rharzumanyan:~$ grep .conf file.txt > conf.txt
rharzumanyan@rharzumanyan:~$ cat conf.txt
adduser.conf
apg.conf
appstream.conf
brlty.conf
ca-certificates.conf
ca-certificates.conf.dpkg-old
casper.conf
compizconfig
dconf
debconf.conf
deluser.conf
e2scrub.conf
fprintd.conf
fuse.conf
gai.conf
hdparm.conf
host.conf
inxi.conf
kernel-img.conf
kerneloops.conf
ld.so.conf
ld.so.conf.d
```

Figure 2: Поиск расширения .conf

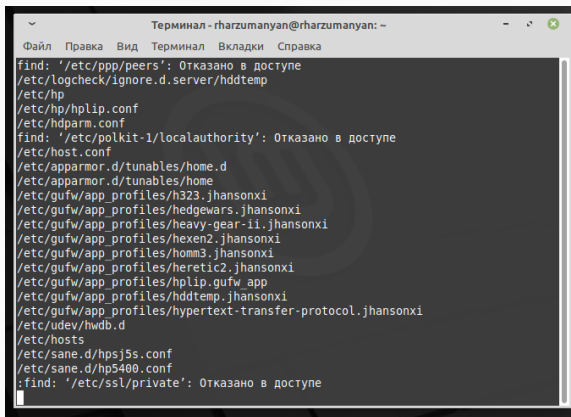


The image shows a terminal window titled "Терминал - rharzumanyan@rharzumanyan: ~". The window has a menu bar with "Файл", "Правка", "Вид", "Терминал", "Вкладки", and "Справка". The terminal content shows two commands and their outputs:

```
rharzumanyan@rharzumanyan:~$ ls -R | grep c*
conf.txt

rharzumanyan@rharzumanyan:~$ find ~ -name "c*" -print
/home/rharzumanyan/.local/share/evolution/calendar
/home/rharzumanyan/.local/share/evolution/calendar/system/calendar.ics
/home/rharzumanyan/.local/share/evolution/addressbook/system/contacts.db
/home/rharzumanyan/.local/share/flatpak/repo/config
/home/rharzumanyan/.local/share/flatpak/repo/tmp/cache
/home/rharzumanyan/.config/caja
/home/rharzumanyan/.config/kdeconnect/certificate.pem
/home/rharzumanyan/.config/gtk-3.0/colors.css
/home/rharzumanyan/.config/pulse/c4f2d44acf3c4564bf5a66409c42613f-card-database.
tdb
/home/rharzumanyan/.config/pulse/c4f2d44acf3c4564bf5a66409c42613f-device-volumes
.tdb
/home/rharzumanyan/.config/pulse/c4f2d44acf3c4564bf5a66409c42613f-default-source
/home/rharzumanyan/.config/pulse/c4f2d44acf3c4564bf5a66409c42613f-stream-volumes
.tdb
/home/rharzumanyan/.config/pulse/cookie
/home/rharzumanyan/.config/pulse/c4f2d44acf3c4564bf5a66409c42613f-default-sink
/home/rharzumanyan/.config/libreoffice/4/user/uno_packages/cache
/home/rharzumanyan/.config/libreoffice/4/user/uno_packages/cache/registry/com.su
n.star.comp.deployment.help.PackageRegistryBackend
/home/rharzumanyan/.config/libreoffice/4/user/uno_packages/cache/registry/com.su
```

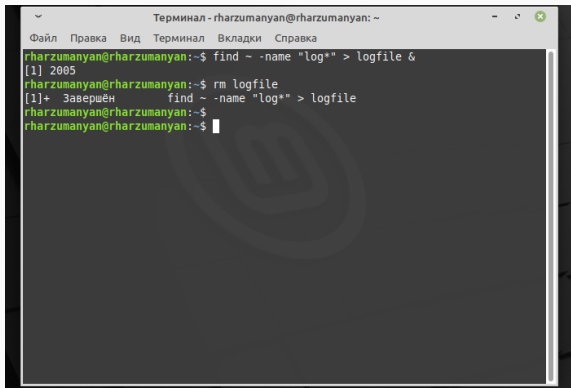
Figure 3: Поиск файлов

A terminal window titled "Терминал - rharzumanyan@rharzumanyan: ~" with a menu bar containing "Файл", "Правка", "Вид", "Терминал", "Вкладки", and "Справка". The terminal displays the output of a 'find' command, listing various system files and directories. The output is as follows:

```
find: '/etc/ppp/peers': Отказано в доступе
/etc/logcheck/ignore.d.server/hddtemp
/etc/hp
/etc/hp/hplip.conf
/etc/hdparm.conf
find: '/etc/polkit-1/localauthority': Отказано в доступе
/etc/host.conf
/etc/apparmor.d/tunables/home.d
/etc/apparmor.d/tunables/home
/etc/gufw/app_profiles/h323.jhansonxi
/etc/gufw/app_profiles/hedgewars.jhansonxi
/etc/gufw/app_profiles/heavy-gear-ii.jhansonxi
/etc/gufw/app_profiles/hexen2.jhansonxi
/etc/gufw/app_profiles/homm3.jhansonxi
/etc/gufw/app_profiles/heretic2.jhansonxi
/etc/gufw/app_profiles/hplip.gufw_app
/etc/gufw/app_profiles/hddtemp.jhansonxi
/etc/gufw/app_profiles/hypertext-transfer-protocol.jhansonxi
/etc/udev/hwdb.d
/etc/hosts
/etc/sane.d/hpsj5s.conf
/etc/sane.d/hp5400.conf
:find: '/etc/ssl/private': Отказано в доступе
```

Figure 4: Поиск файлов

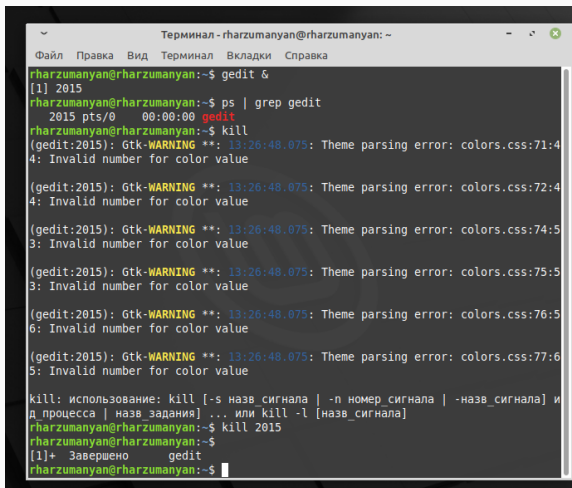
Управление процессами

A terminal window titled "Терминал - rharzumanyan@rharzumanyan: ~" with a menu bar (Файл, Правка, Вид, Терминал, Вкладки, Справка). The terminal shows a sequence of commands and their outputs: a 'find' command to locate files named 'log*', the creation of a 'logfile', and the removal of the 'logfile'. The process ends with a confirmation message "[1]+ Завершён".

```
Терминал - rharzumanyan@rharzumanyan: ~
Файл  Правка  Вид  Терминал  Вкладки  Справка
rharzumanyan@rharzumanyan:~$ find ~ -name "log*" > logfile &
[1] 2005
rharzumanyan@rharzumanyan:~$ rm logfile
[1]+  Завершён      find ~ -name "log*" > logfile
rharzumanyan@rharzumanyan:~$
rharzumanyan@rharzumanyan:~$
```

Figure 5: Фоновый запуск процесса

Управление процессами



```
Терминал - rharzumanyan@rharzumanyan: ~
Файл  Правка  Вид  Терминал  Вкладки  Справка

rharzumanyan@rharzumanyan:~$ gedit &
[1] 2015
rharzumanyan@rharzumanyan:~$ ps | grep gedit
  2015 pts/0    00:00:00 gedit
rharzumanyan@rharzumanyan:~$ kill
(gedit:2015): Gtk-WARNING **: 13:26:48.075: Theme parsing error: colors.css:71:4
4: Invalid number for color value

(gedit:2015): Gtk-WARNING **: 13:26:48.075: Theme parsing error: colors.css:72:4
4: Invalid number for color value

(gedit:2015): Gtk-WARNING **: 13:26:48.075: Theme parsing error: colors.css:74:5
3: Invalid number for color value

(gedit:2015): Gtk-WARNING **: 13:26:48.075: Theme parsing error: colors.css:75:5
3: Invalid number for color value

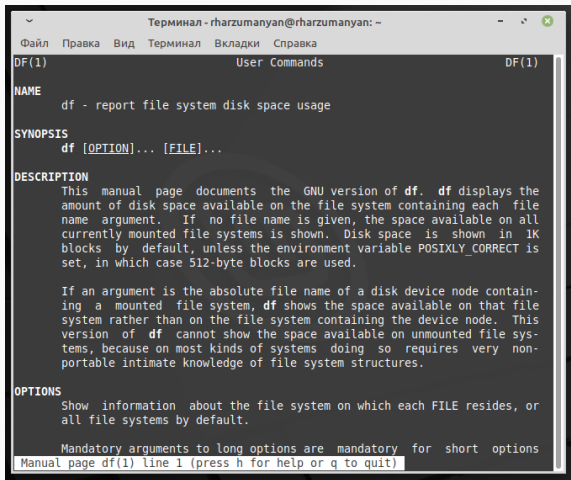
(gedit:2015): Gtk-WARNING **: 13:26:48.075: Theme parsing error: colors.css:76:5
6: Invalid number for color value

(gedit:2015): Gtk-WARNING **: 13:26:48.075: Theme parsing error: colors.css:77:6
5: Invalid number for color value

kill: использование: kill [-s назв_сигнала | -n номер_сигнала | -назв_сигнала] и
д процесса | назв задания] ... или kill -l [назв_сигнала]
rharzumanyan@rharzumanyan:~$ kill 2015
rharzumanyan@rharzumanyan:~$
[1]+  Завершено      gedit
rharzumanyan@rharzumanyan:~$
```

Figure 6: Фоновый запуск и завершение процесса

Команды df и du



Терминал - rharzumanyan@rharzumanyan: ~

Файл Правка Вид Терминал Вкладки Справка

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 the space available on unmounted file systems, because on most kinds of systems doing so requires very non-portable intimate knowledge of file system structures.

OPTIONS

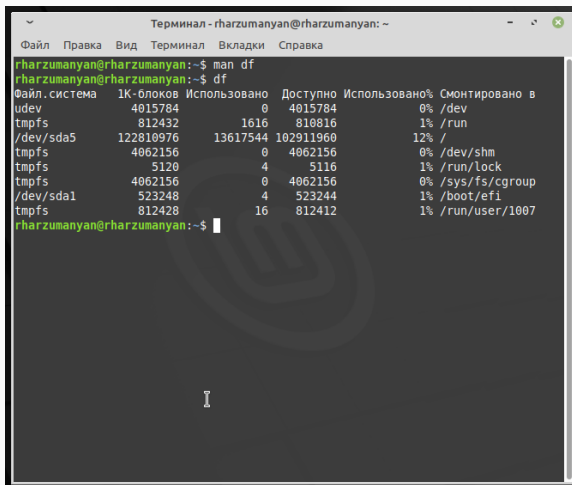
Show information about the file system on which each FILE resides, or all file systems by default.

Mandatory arguments to long options are mandatory for short options

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

Figure 7: Справка по команде df

Команды df и du



Терминал - rharzumanyan@rharzumanyan: ~

Файл Правка Вид Терминал Вкладки Справка

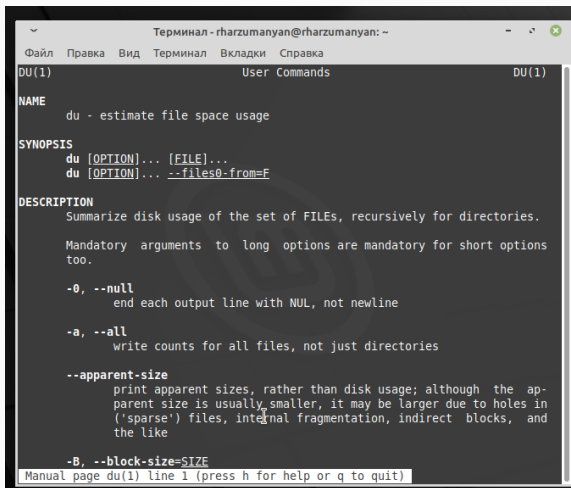
```
rharzumanyan@rharzumanyan:~$ man df
rharzumanyan@rharzumanyan:~$ df
```

Файл. система	1K-блоков	Использовано	Доступно	Использовано%	Смонтировано в
udev	4015784	0	4015784	0%	/dev
tmpfs	812432	1616	810816	1%	/run
/dev/sda5	122810976	13617544	102911960	12%	/
tmpfs	4062156	0	4062156	0%	/dev/shm
tmpfs	5120	4	5116	1%	/run/lock
tmpfs	4062156	0	4062156	0%	/sys/fs/cgroup
/dev/sda1	523248	4	523244	1%	/boot/efi
tmpfs	812428	16	812412	1%	/run/user/1007

```
rharzumanyan@rharzumanyan:~$
```

Figure 8: Запуск команды df

Команды df и du



```
Терминал - rharzumanyan@rharzumanyan: ~
Файл  Правка  Вид  Терминал  Вкладки  Справка
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

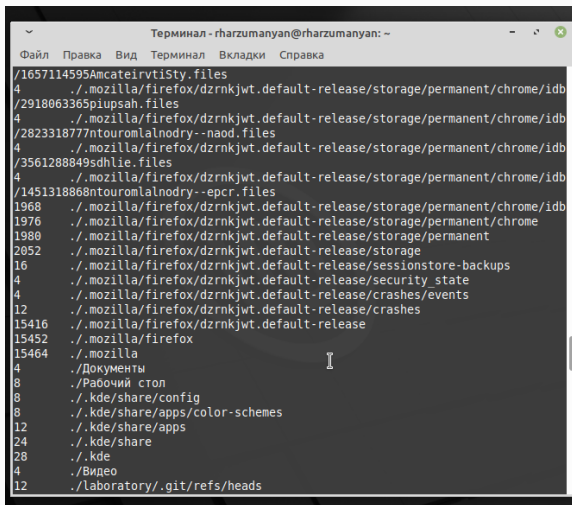
    -a, --all
        write counts for all files, not just directories

    --apparent-size
        print apparent sizes, rather than disk usage; although the ap-
        parent size is usually smaller, it may be larger due to holes in
        ('sparse') files, internal fragmentation, indirect blocks, and
        the like

    -B, --block-size=SIZE
        Manual page du(1) line 1 (press h for help or q to quit)
```

Figure 9: Справка по команде du

Команды df и du

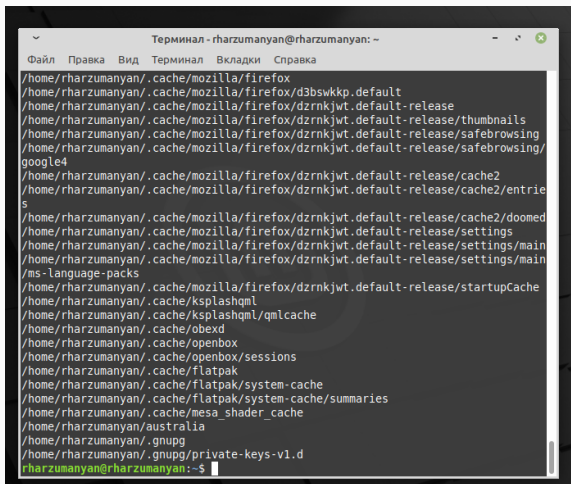


```
Терминал - rharzumanyan@rharzumanyan: ~
Файл  Правка  Вид  Терминал  Вкладки  Справка

/1657114595AmcateirvtiSty.files
4  ./mozilla/firefox/dzrnkjwt.default-release/storage/permanent/chrome/idx
/2918063365piupsah.files
4  ./mozilla/firefox/dzrnkjwt.default-release/storage/permanent/chrome/idx
/2823318777ntouromlalnodry--naod.files
4  ./mozilla/firefox/dzrnkjwt.default-release/storage/permanent/chrome/idx
/3561288849sdhlie.files
4  ./mozilla/firefox/dzrnkjwt.default-release/storage/permanent/chrome/idx
/1451318868ntouromlalnodry--epcr.files
1968  ./mozilla/firefox/dzrnkjwt.default-release/storage/permanent/chrome/idx
1976  ./mozilla/firefox/dzrnkjwt.default-release/storage/permanent/chrome
1980  ./mozilla/firefox/dzrnkjwt.default-release/storage/permanent
2052  ./mozilla/firefox/dzrnkjwt.default-release/storage
16  ./mozilla/firefox/dzrnkjwt.default-release/sessionstore-backups
4  ./mozilla/firefox/dzrnkjwt.default-release/security_state
4  ./mozilla/firefox/dzrnkjwt.default-release/crashes/events
12  ./mozilla/firefox/dzrnkjwt.default-release/crashes
15416  ./mozilla/firefox/dzrnkjwt.default-release
15452  ./mozilla/firefox
15464  ./mozilla
4  ./Документы
8  ./Рабочий стол
8  ./kde/share/config
8  ./kde/share/apps/color-schemes
12  ./kde/share/apps
24  ./kde/share
28  ./kde
4  ./Видео
12  ./laboratory/.git/refs/heads
```

Figure 10: Запуск команды du

Команда поиска



```
Терминал - rharzumanyan@rharzumanyan: ~
Файл  Правка  Вид  Терминал  Вкладки  Справка

/home/rharzumanyan/.cache/mozilla/firefox
/home/rharzumanyan/.cache/mozilla/firefox/d3bswkkp.default
/home/rharzumanyan/.cache/mozilla/firefox/dzrnkjwt.default-release
/home/rharzumanyan/.cache/mozilla/firefox/dzrnkjwt.default-release/thumbnails
/home/rharzumanyan/.cache/mozilla/firefox/dzrnkjwt.default-release/safebrowsing
/home/rharzumanyan/.cache/mozilla/firefox/dzrnkjwt.default-release/safebrowsing/
google4
/home/rharzumanyan/.cache/mozilla/firefox/dzrnkjwt.default-release/cache2
/home/rharzumanyan/.cache/mozilla/firefox/dzrnkjwt.default-release/cache2/entrie
s
/home/rharzumanyan/.cache/mozilla/firefox/dzrnkjwt.default-release/cache2/doomed
/home/rharzumanyan/.cache/mozilla/firefox/dzrnkjwt.default-release/settings
/home/rharzumanyan/.cache/mozilla/firefox/dzrnkjwt.default-release/settings/main
/home/rharzumanyan/.cache/mozilla/firefox/dzrnkjwt.default-release/settings/main
/ms-language-packs
/home/rharzumanyan/.cache/mozilla/firefox/dzrnkjwt.default-release/startupCache
/home/rharzumanyan/.cache/ksplashqml
/home/rharzumanyan/.cache/ksplashqml/qmlcache
/home/rharzumanyan/.cache/obexd
/home/rharzumanyan/.cache/openbox
/home/rharzumanyan/.cache/openbox/sessions
/home/rharzumanyan/.cache/flatpak
/home/rharzumanyan/.cache/flatpak/system-cache
/home/rharzumanyan/.cache/flatpak/system-cache/summaries
/home/rharzumanyan/.cache/mesa_shader_cache
/home/rharzumanyan/australia
/home/rharzumanyan/.gnupg
/home/rharzumanyan/.gnupg/private-keys-v1.d
rharzumanyan@rharzumanyan:~$
```

Figure 11: Поиск директорий

Выводы по проделанной работе

В данной работе мы ознакомились с инструментами поиска файлов и фильтрации текстовых данных. А также приобрели практические навыки по управлению процессами.