

Цель работы:

Изучить основы программирования в оболочке ОС UNIX/Linux, научиться писать небольшие командные файлы.

Ход работы:

1. Написал скрипт, который при запуске будет делать резервную копию самого себя (то есть файла, в котором содержится его исходный код) в другую директорию backup в домашнем каталоге. При этом файл должен архивироваться одним из архиваторов на выбор zip, bzip2 или tar. Способ использования команд архивации узнал, изучив справку.(рис. 1 [-@fig:001], [-@fig:002], [-@fig:003])

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PRoMofficialiPRoM

ZIP(1L)
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NAME
zip - package and compress (archive) files

SYNOPSIS
zip [-aABcdDeEfFghjklLmoqrRSTuvVwXyz!@$] [--longoption ...] [-b path] [-n suffixes] [-t date] [-tt date]
[zipfile [file ...]] [-xi list]

zipcloak (see separate man page)

zipnote (see separate man page)

zipsplit (see separate man page)

Note: Command line processing in zip has been changed to support long options and handle all options and
arguments more consistently. Some old command lines that depend on command line inconsistencies may no
longer work.

DESCRIPTION
zip is a compression and file packaging utility for Unix, VMS, MSDOS, OS/2, Windows 9x/NT/XP, Minix, Atari,
Macintosh, Amiga, and Acorn RISC OS. It is analogous to a combination of the Unix commands tar(1) and com-
press(1) and is compatible with PKZIP (Phil Katz's ZIP for MSDOS systems).

A companion program (unzip(1L)) unpacks zip archives. The zip and unzip(1L) programs can work with archives
produced by PKZIP (supporting most PKZIP features up to PKZIP version 4.6), and PKZIP and PKUNZIP can work
with archives produced by zip (with some exceptions, notably streamed archives, but recent changes in the
zip file standard may facilitate better compatibility). zip version 3.0 is compatible with PKZIP 2.04 and
also supports the Zip64 extensions of PKZIP 4.5 which allow archives as well as files to exceed the previous
2 GB limit (4 GB in some cases). zip also now supports bzip2 compression if the bzip2 library is included
when zip is compiled. Note that PKUNZIP 1.10 cannot extract files produced by PKZIP 2.04 or zip 3.0. You
must use PKUNZIP 2.04g or unzip 5.0p1 (or later versions) to extract them.

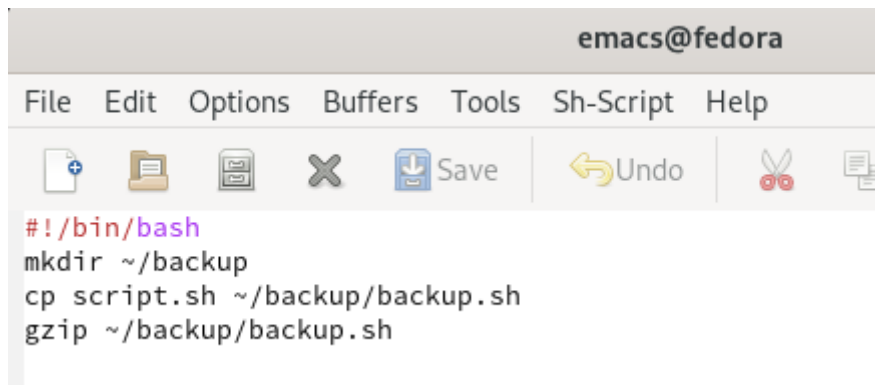
See the EXAMPLES section at the bottom of this page for examples of some typical uses of zip.

Large Archives and Zip64. zip automatically uses the Zip64 extensions when files larger than 4 GB are added
to an archive, an archive containing Zip64 entries is updated (if the resulting archive still needs Zip64),
the size of the archive will exceed 4 GB, or when the number of entries in the archive will exceed about
64K. Zip64 is also used for archives streamed from standard input as the size of such archives are not
known in advance, but the option -fz- can be used to force zip to create PKZIP 2 compatible archives (as
long as Zip64 extensions are not needed). You must use a PKZIP 4.5 compatible unzip, such as unzip 6.0 or
later, to extract files using the Zip64 extensions.

In addition, streamed archives, entries encrypted with standard encryption, or split archives created with
the pause option may not be compatible with PKZIP as data descriptors are used and PKZIP at the time of this
writing does not support data descriptors (but recent changes in the PKWare published zip standard now in-
clude some support for the data descriptor format zip uses).

Mac OS X. Though previous Mac versions had their own zip port, zip supports Mac OS X as part of the Unix
port and most Unix features apply. References to "MacOS" below generally refer to MacOS versions older than
OS X. Support for some Mac OS features in the Unix Mac OS X port, such as resource forks, is expected in
the next zip release.

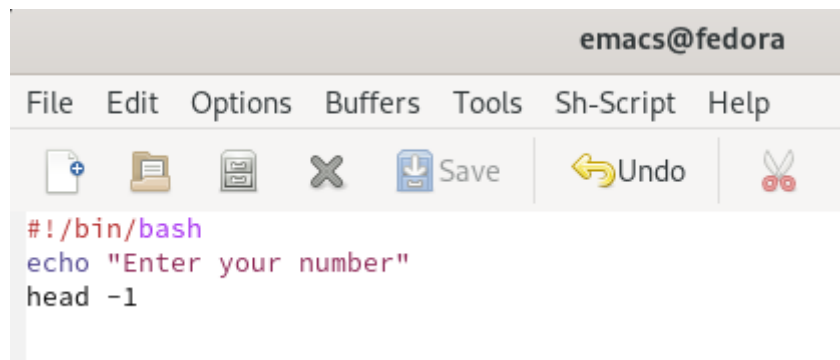
For a brief help on zip and unzip, run each without specifying any parameters on the command line.
Manual page zip(1) line 1 (press h for help or q to quit)
```



```
[PProMofficialiPProMise@fedora ~]$ touch script.sh
[PProMofficialiPProMise@fedora ~]$ ls
abc1      cus      Documents  feathers  '#lab07.sh#~'  labs  my_os  pandoc-1.17.0.3.tar.gz  pla
y         Public   ski.plases  Templates tmp  Videos
australia Desktop Downloads '#lab07.sh#' lab07.sh Music  pandoc-1.17.0.3 Pictures pro
gram.txt  script.sh study_2021-2022_os-intro text.txt var  work
[PProMofficialiPProMise@fedora ~]$ chmod -x script.sh
[PProMofficialiPProMise@fedora ~]$ emacs
[PProMofficialiPProMise@fedora ~]$ ./script.sh
bash: ./script.sh: Отказано в достуtne
[PProMofficialiPProMise@fedora ~]$ chmod +x script.sh
[PProMofficialiPProMise@fedora ~]$ ./script.sh
[PProMofficialiPProMise@fedora ~]$ ls
abc1      Documents  lab07.sh  pandoc-1.17.0.3.tar.gz  script.sh  text.txt
australia Downloads  labs      Pictures               script.sh~  tmp
backup    feathers   Music     play                  ski.plases  var
cus       '#lab07.sh#' my_os     program.txt           study_2021-2022_os-intro Videos
Desktop   '#lab07.sh#' pandoc-1.17.0.3 Public              Templates   work
[PProMofficialiPProMise@fedora ~]$ emacs
[PProMofficialiPProMise@fedora ~]$ ls backup/
backup.sh.gz
[PProMofficialiPProMise@fedora ~]$
```

##

2. Написал пример командного файла, обрабатывающего любое произвольное число аргументов командной строки, в том числе превышающее десять. Например, скрипт может последовательно распечатывать значения всех переданных аргументов.(рис. [-@fig:004])(рис. [-@fig:005])



```
[PProMofficialiPProMise@fedora ~]$ touch script2.sh
[PProMofficialiPProMise@fedora ~]$ chmod +x script2.sh
[PProMofficialiPProMise@fedora ~]$ emacs
[PProMofficialiPProMise@fedora ~]$ ./script2.sh
Enter your number
15
15
[PProMofficialiPProMise@fedora ~]$
```

##

3. Написал командный файл — аналог команды ls (без использования самой этой команды и команды dir). Требуется, чтобы он выдавал информацию о нужном

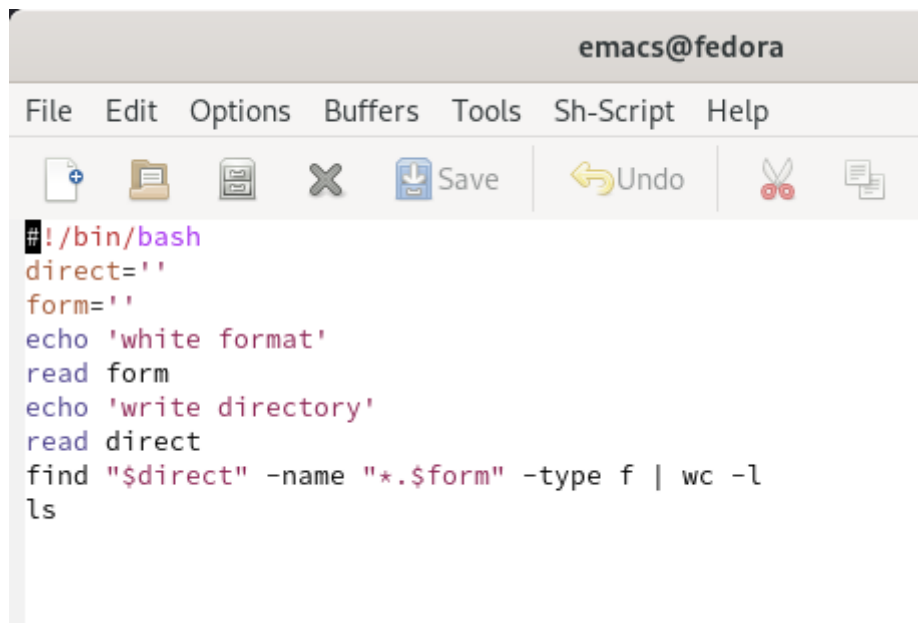
каталоге и выводил информацию о возможностях доступа к файлам этого каталога.(рис. [-@fig:006])(рис. [-@fig:007])

```
#!/bin/bash
for A in *
do if test -d $A
then echo $A: is a directory
else echo -n $A: is a file and
if test -w $A
then echo can be written
elif test -r $A
then echo readable
else echo impossible to process
fi
fi
done
```

```
[PRoMofficialiPRoMise@fedora ~]$ ./file.sh
abc1: is a file andcan be written
australia: is a directory
backup: is a directory
cus: is a directory
Desktop: is a directory
Documents: is a directory
Downloads: is a directory
feathers: is a file andcan be written
file.sh: is a file andcan be written
file.sh~: is a file andcan be written
#lab07.sh#: is a file andcan be written
#lab07.sh#~: is a file andcan be written
lab07.sh: is a file andcan be written
labs: is a directory
Music: is a directory
my_os: is a file and./file.sh: строка 8: teat: команда не найдена
impossible to process
pandoc-1.17.0.3: is a directory
pandoc-1.17.0.3.tar.gz: is a file andcan be written
Pictures: is a directory
play: is a directory
program.txt: is a file andcan be written
Public: is a directory
script2.sh: is a file andcan be written
script2.sh~: is a file andcan be written
script.sh: is a file andcan be written
script.sh~: is a file andcan be written
ski.plases: is a directory
study_2021-2022_os-intro: is a directory
Templates: is a directory
text.txt: is a file andcan be written
tmp: is a directory
var: is a directory
Videos: is a directory
work: is a directory
[PRoMofficialiPRoMise@fedora ~]$
```

4. Написал командный файл, который получает в качестве аргумента командной строки формат файла (.txt, .doc, .jpg, .pdf и т.д.) и вычисляет количество таких файлов в указанной директории. Путь к директории также передаётся в виде аргумента командной строки.(рис. [-@fig:009])(рис. [-@fig:010])

```
[PROMofficialiPROmise@fedora ~]$ ./file2.sh
white format
sh
write directory
backup
0
abcl Downloads '#lab07.sh#' pandoc-1.17.0.3 script2.sh Templates
australia feathers '#lab07.sh#~' pandoc-1.17.0.3.tar.gz script2.sh~ text.txt
backup file2.sh lab07.sh Pictures script.sh tmp
cus file2.sh~ labs play script.sh~ var
Desktop file.sh Music program.txt ski.plases Videos
Documents file.sh~ my_os Public study_2021-2022_os-intro work
[PROMofficialiPROmise@fedora ~]$
```



Вывод:

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