➢ Man -h

```
$ man -h
Usage: man [OPTION...] [SECTION] PAGE...

 -C, --config-file=FILE    use this user configuration file
 -d, --debug               emit debugging messages
 -D, --default             reset all options to their default values
     --warnings[=WARNINGS]  enable warnings from groff

Main modes of operation:
 -f, --whatis              equivalent to whatis
 -k, --apropos             equivalent to apropos
 -K, --global-apropos      search for text in all pages
 -l, --local-file          interpret PAGE argument(s) as local filename(s)
 -w, --where, --path, --location
                           print physical location of man page(s)
 -W, --where-cat, --location-cat
                           print physical location of cat file(s)

 -c, --catman              used by catman to reformat out of date cat pages
 -R, --recode=ENCODING     output source page encoded in ENCODING

Finding manual pages:
 -L, --locale=LOCALE       define the locale for this particular man search
 -m, --systems=SYSTEM      use manual pages from other systems
 -M, --manpath=PATH        set search path for manual pages to PATH

 -S, -s, --sections=LIST   use colon separated section list

 -e, --extension=EXTENSION limit search to extension type EXTENSION

 -i, --ignore-case         look for pages case-insensitively (default)
 -I, --match-case          look for pages case-sensitively

     --regex               show all pages matching regex
     --wildcard            show all pages matching wildcard

     --names-only          make --regex and --wildcard match page names only,
                           not descriptions

 -a, --all                 find all matching manual pages
 -u, --update              force a cache consistency check

     --no-subpages         don't try subpages, e.g. 'man foo bar' => 'man
                           foo-bar'

Controlling formatted output:
 -P, --pager=PAGER         use program PAGER to display output
 -r, --prompt=STRING       provide the `less' pager with a prompt

 -7, --ascii               display ASCII translation of certain latin1 chars
 -E, --encoding=ENCODING   use selected output encoding
     --no-hyphenation, --nh turn off hyphenation
     --no-justification,                    --nj   turn off justifica
tion
 -p, --preprocessor=STRING  STRING indicates which preprocessors to run:
                           e - [n]eqn, p - pic, t - tbl,
g - grap, r - refer, v - vgrind

 -t, --troff               use groff to format pages
 -T, --troff-device[=DEVICE]   use groff with selected device

 -H, --html[=BROWSER]      use lynx or BROWSER to display HTML output
 -X, --gxditview[=RESOLUTION]   use groff and display through gxditview
                           (X11):
                           -X = -TX75, -X100 = -TX100, -X100-12 = -TX100-12
 -Z, --ditroff             use groff and force it to produce ditroff

 -?, --help                give this help list
     --usage               give a short usage message

Mandatory or optional arguments to long options are also mandatory or optional
```

➤ which

```
WHICH(1)                   General Commands Manual                   WHICH(1)

NAME
       which - shows the full path of (shell) commands.

SYNOPSIS
       which [options] [--] programname [...]

DESCRIPTION
       Which takes one or more arguments. For each of its arguments it prints
       to stdout the full path of the executables that would have been exe-
       cuted when this argument had been entered at the shell prompt. It does
       this by searching for an executable or script in the directories listed
       in the environment variable PATH using the same algorithm as bash(1).

       This man page is generated from the file which.texinfo.

OPTIONS
       --all, -a
           Print all matching executables in PATH, not just the first.

       --read-alias, -i
           Read aliases from stdin, reporting matching ones on stdout. This is
           useful in combination with using an alias for which itself. For ex-
           ample
           alias which='alias | which -i'.

       --skip-alias
           Ignore option `--read-alias', if any. This is useful to explicity
           search for normal binaries, while using the `--read-alias' option
           in an alias or function for which.

       --read-functions
           Read shell function definitions from stdin, reporting matching ones
           on stdout. This is useful in combination with using a shell func-
           tion for which itself.  For example:
           which() { declare -f | which --read-functions $@ }
           export -f which

       --skip-functions
           Ignore option `--read-functions', if any. This is useful to explic-
           ity search for normal binaries, while using the `--read-functions'
           option in an alias or function for which.

       --skip-dot
           Skip directories in PATH that start with a dot.

       --skip-tilde
           Skip directories in PATH that start with a tilde and executables
           which reside in the HOME directory.

       --show-dot
           If a directory in PATH starts with a dot and a matching executable
           was found for that path, then print "./programname" rather than the
           full path.

       --show-tilde
           Output a tilde when a directory matches the HOME directory. This
           option is ignored when which is invoked as root.

       --tty-only
Manual page which(1) line 1 (press h for help or q to quit)
```

Kariev Lab.

Интеллектуальная собственность.
Принадлежит: Кариеву Санжару Давроновичу.
ИНН: 504724516979
E-mail: kariev.s69@gmail.com

➢ Fg

```
BASH_BUILTINS(1)                        General Commands Manual                        BASH_BUILTINS(1)

NAME
       bash, :, ., [, alias, bg, bind, break, builtin, caller, cd, command, compgen, complete, compopt, continue, declare, dirs, disown, echo,
       enable, eval, exec, exit, export, false, fc, fg, getopts, hash, help, history, jobs, kill, let, local, logout, mapfile, popd, printf,
       pushd, pwd, read, readonly, return, set, shift, shopt, source, suspend, test, times, trap, true, type, typeset, ulimit, umask, unalias,
       unset, wait - bash built-in commands, see bash(1)

BASH BUILTIN COMMANDS
SEE ALSO
       bash(1), sh(1)

GNU Bash-4.2                                  2004 Apr 20                                 BASH_BUILTINS(1)
 Manual page fg(1) line 1/13 (END) (press h for help or q to quit)
```

➢ Bg

```
BASH_BUILTINS(1)                        General Commands Manual                        BASH_BUILTINS(1)

NAME
       bash, :, ., [, alias, bg, bind, break, builtin, caller, cd, command, compgen, complete, compopt, continue, declare, dirs, disown, echo,
       enable, eval, exec, exit, export, false, fc, fg, getopts, hash, help, history, jobs, kill, let, local, logout, mapfile, popd, printf,
       pushd, pwd, read, readonly, return, set, shift, shopt, source, suspend, test, times, trap, true, type, typeset, ulimit, umask, unalias,
       unset, wait - bash built-in commands, see bash(1)

BASH BUILTIN COMMANDS
SEE ALSO
       bash(1), sh(1)

GNU Bash-4.2                                  2004 Apr 20                                 BASH_BUILTINS(1)
 Manual page bg(1) line 1/13 (END) (press h for help or q to quit)
```

➢ ps

```
$ man ps
No manual entry for ps
```

➢ Ln

```
LN(1)                                   User Commands                                   LN(1)

NAME
       ln - make links between files

SYNOPSIS
       ln [OPTION]... [-T] TARGET LINK_NAME
       ln [OPTION]... TARGET
       ln [OPTION]... TARGET... DIRECTORY
       ln [OPTION]... -t DIRECTORY TARGET...

DESCRIPTION
       In the 1st form, create a link to TARGET with the name LINK_NAME.  In the 2nd form, create a link to TARGET in the current directory.
       In the 3rd and 4th forms, create links to each TARGET in DIRECTORY.  Create hard links by default, symbolic links with --symbolic.  By
       default, each destination (name of new link) should not already exist.  When creating hard links, each TARGET must exist.  Symbolic
       links can hold arbitrary text; if later resolved, a relative link is interpreted in relation to its parent directory.

       Mandatory arguments to long options are mandatory for short options too.

       --backup[=CONTROL]
              make a backup of each existing destination file

       -b     like --backup but does not accept an argument

       -d, -F, --directory
              allow the superuser to attempt to hard link directories (note: will probably fail due to system restrictions, even for the supe-
              ruser)

       -f, --force
              remove existing destination files

       -i, --interactive
              prompt whether to remove destinations

       -L, --logical
              dereference TARGETs that are symbolic links

       -n, --no-dereference
              treat LINK_NAME as a normal file if it is a symbolic link to a directory

       -P, --physical
              make hard links directly to symbolic links

       -r, --relative
              with -s, create links relative to link location

       -s, --symbolic
              make symbolic links instead of hard links

       -S, --suffix=SUFFIX
              override the usual backup suffix

       -t, --target-directory=DIRECTORY
              specify the DIRECTORY in which to create the links

       -T, --no-target-directory
              treat LINK_NAME as a normal file always

       -v, --verbose
              print name of each linked file

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

➢ Stat

```
STAT(1)                                   User Commands                                   STAT(1)

NAME
        stat - display file or file system status

SYNOPSIS
        stat [OPTION]... FILE...

DESCRIPTION
        Display file or file system status.

        Mandatory arguments to long options are mandatory for short options too.

        -L, --dereference
               follow links

        -f, --file-system
               display file system status instead of file status

        --cached=MODE
               specify how to use cached attributes; useful on remote file systems. See MODE below

        -c  --format=FORMAT
               use the specified FORMAT instead of the default; output a newline after each use of FORMAT

        --printf=FORMAT
               like  --format,  but interpret backslash escapes, and do not output a mandatory trailing newline; if you want a newline, include
               \n in FORMAT

        -t, --terse
               print the information in terse form

        --append-exe
               append .exe if cygwin magic was needed

        --help display this help and exit

        --version
               output version information and exit

        The MODE argument of --cached can be: always, never, or default.  'always' will use cached attributes if available, while 'never'  will
        try to synchronize with the latest attributes, and 'default' will leave it up to the underlying file system.

        The valid format sequences for files (without --file-system):

        %a     permission bits in octal (note '#' and '0' printf flags)

        %A     permission bits and file type in human readable form

        %b     number of blocks allocated (see %B)

        %B     the size in bytes of each block reported by %b

        %C     SELinux security context string

        %d     device number in decimal (st_dev)

        %D     device number in hex (st_dev)

        %Hd    major device number in decimal
Manual page stat(1) line 1 (press h for help or q to quit)
```

➢ Ping

```
$ ping

Использование: ping [-t] [-a] [-n <число>] [-l <размер>] [-f] [-i <TTL>]
                    [-v <TOS>] [-r <число>] [-s <число>]
                    [[-j <список_узлов>] | [-k <список_узлов>]]
                    [-w <время_ожидания>] [-R] [-S <адрес_источника>]
                    [-c секция] [-p] [-4] [-6] конечный_узел

Параметры:
  -t                      Проверяет связь с указанным узлом до прекращения.
                          Для отображения статистики и продолжения проверки
                          нажмите клавиши CTRL+BREAK;
                          для прекращения нажмите CTRL+C.
  -a                      Разрешает адреса в имена узлов.
  -n <число>              Число отправляемых запросов проверки связи.
  -l <размер>             Размер буфера отправки.
  -f                      Устанавливает флаг, запрещающий фрагментацию,
                          в пакете (только IPv4).
  -i <TTL>                Срок жизни пакетов.
  -v <TOS>                Тип службы (только IPv4; этот параметр
                          использовать не рекомендуется, и он не влияет на поле
                          TOS в заголовке IP).
  -r <число>              Записывает маршрут для указанного числа прыжков
                          (только IPv4).
  -s <число>              Задает метку времени для указанного числа прыжков
                          (только IPv4).
  -j <список_узлов>       Задает свободный выбор маршрута по списку узлов
                          (только IPv4).
  -k <список_узлов>       Задает жесткий выбор маршрута по списку узлов
                          (только IPv4).
  -w <время_ожидания>     Задает время ожидания каждого ответа (в миллисекундах).
  -R                      Использует заголовок маршрута для проверки и обратного
                          маршрута (только IPv6). В соответствии с RFC 5095,
                          использование этого заголовка маршрута не рекомендуется
                          В некоторых системах запросы проверки связи могут быть
                          сброшены, если используется этот заголовок.
  -S <адрес_источника>    Задает адрес источника.
  -c секция               Идентификатор секции маршрутизации.
  -p                      Проверяет связь с сетевым адресом поставщика
                          виртуализации Hyper-V.
  -4                      Задает принудительное использование протокола IPv4.
  -6                      Задает принудительное использование протокола IPv6.
```

Kariev Lab.

➢ Chmod

```
CHMOD(1)                              User Commands                              CHMOD(1)

NAME
       chmod - change file mode bits

SYNOPSIS
       chmod [OPTION]... MODE[,MODE]... FILE...
       chmod [OPTION]... OCTAL-MODE FILE...
       chmod [OPTION]... --reference=RFILE FILE...

DESCRIPTION
       This  manual page documents the GNU version of chmod.  chmod changes the file mode bits of each given file according to mode, which can
       be either a symbolic representation of changes to make, or an octal number representing the bit pattern for the new mode bits.

       The format of a symbolic mode is [ugoa...][[-+=][perms...]...], where perms is either zero or more letters from the set  rwxXst,  or  a
       single letter from the set ugo.  Multiple symbolic modes can be given, separated by commas.

       A  combination  of  the letters ugoa controls which users' access to the file will be changed: the user who owns it (u), other users in
       the file's group (g), other users not in the file's group (o), or all users (a).  If none of these are given, the effect is as  if  (a)
       were given, but bits that are set in the umask are not affected.

       The operator + causes the selected file mode bits to be added to the existing file mode bits of each file; - causes them to be removed;
       and = causes them to be added and causes unmentioned bits to be removed except that a directory's unmentioned set  user  and  group  ID
       bits are not affected.

       The  letters  rwxXst  select  file mode bits for the affected users: read (r), write (w), execute (or search for directories) (x), exe-
       cute/search only if the file is a directory or already has execute permission for some user (X), set user or group ID on execution (s),
       restricted  deletion  flag or sticky bit (t).  Instead of one or more of these letters, you can specify exactly one of the letters ugo:
       the permissions granted to the user who owns the file (u), the permissions granted to other users who are members of the  file's  group
       (g), and the permissions granted to users that are in neither of the two preceding categories (o).

       A  numeric  mode is from one to four octal digits (0-7), derived by adding up the bits with values 4, 2, and 1.  Omitted digits are as-
       sumed to be leading zeros.  The first digit selects the set user ID (4) and set group ID (2) and restricted deletion or sticky (1)  at-
       tributes.  The second digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the third selects
       permissions for other users in the file's group, with the same values; and the fourth for other users not in the file's group, with the
       same values.

       chmod  never  changes  the permissions of symbolic links; the chmod system call cannot change their permissions.  This is not a problem
       since the permissions of symbolic links are never used.  However, for each symbolic link listed on the command line, chmod changes  the
       permissions of the pointed-to file.  In contrast, chmod ignores symbolic links encountered during recursive directory traversals.

SETUID AND SETGID BITS
       chmod  clears  the set-group-ID bit of a regular file if the file's group ID does not match the user's effective group ID or one of the
       user's supplementary group IDs, unless the user has appropriate privileges.  Additional restrictions may cause the set-user-ID and set-
       group-ID  bits  of  MODE  or RFILE to be ignored.  This behavior depends on the policy and functionality of the underlying chmod system
       call.  When in doubt, check the underlying system behavior.

       For directories chmod preserves set-user-ID and set-group-ID bits unless you explicitly specify otherwise.  You can set  or  clear  the
       bits with symbolic modes like u+s and g-s.  To clear these bits for directories with a numeric mode requires an additional leading zero
       like 00755, leading minus like -6000, or leading equals like =755.

RESTRICTED DELETION FLAG OR STICKY BIT
       The restricted deletion flag or sticky bit is a single bit, whose interpretation depends on the file type.  For  directories,  it  pre-
       vents  unprivileged  users  from removing or renaming a file in the directory unless they own the file or the directory; this is called
       the restricted deletion flag for the directory, and is commonly found on world-writable directories like /tmp.  For  regular  files  on
       some older systems, the bit saves the program's text image on the swap device so it will load more quickly when run; this is called the
       sticky bit.

OPTIONS
       Change the mode of each FILE to MODE.  With --reference, change the mode of each FILE to that of RFILE.

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

Kariev Lab.

➢ Chown

```
NAME
       chown - change file owner and group

SYNOPSIS
       chown [OPTION]... [OWNER][:[GROUP]] FILE...
       chown [OPTION]... --reference=RFILE FILE...

DESCRIPTION
       This  manual  page  documents  the GNU version of chown.  chown changes the user and/or group ownership of each given file.  If only an
       owner (a user name or numeric user ID) is given, that user is made the owner of each given file, and the files' group is  not  changed.
       If  the  owner  is  followed by a colon and a group name (or numeric group ID), with no spaces between them, the group ownership of the
       files is changed as well.  If a colon but no group name follows the user name, that user is made the owner of the files and  the  group
       of  the files is changed to that user's login group.  If the colon and group are given, but the owner is omitted, only the group of the
       files is changed; in this case, chown performs the same function as chgrp.  If only a colon is given,  or  if  the  entire  operand  is
       empty, neither the owner nor the group is changed.

OPTIONS
       Change  the  owner and/or group of each FILE to OWNER and/or GROUP.  With --reference, change the owner and group of each FILE to those
       of RFILE.

       -c, --changes
              like verbose but report only when a change is made

       -f, --silent, --quiet
              suppress most error messages

       -v, --verbose
              output a diagnostic for every file processed

       --dereference
              affect the referent of each symbolic link (this is the default), rather than the symbolic link itself

       -h, --no-dereference
              affect symbolic links instead of any referenced file (useful only on systems that can change the ownership of a symlink)

       --from=CURRENT_OWNER:CURRENT_GROUP
              change the owner and/or group of each file only if its current owner and/or group match those specified  here.   Either  may  be
              omitted, in which case a match is not required for the omitted attribute

       --no-preserve-root
              do not treat '/' specially (the default)

       --preserve-root
              fail to operate recursively on '/'

       --reference=RFILE
              use RFILE's owner and group rather than specifying OWNER:GROUP values

       -R, --recursive
              operate on files and directories recursively

       The  following  options  modify how a hierarchy is traversed when the -R option is also specified.  If more than one is specified, only
       the final one takes effect.

       -H     if a command line argument is a symbolic link to a directory, traverse it

       -L     traverse every symbolic link to a directory encountered

       -P     do not traverse any symbolic links (default)
Manual page chown(1) line 1 (press h for help or q to quit)
```

Kariev Lab.

➢ Dd

```
DD(1)                              User Commands                              DD(1)

NAME
       dd - convert and copy a file

SYNOPSIS
       dd [OPERAND]...
       dd OPTION

DESCRIPTION
       Copy a file, converting and formatting according to the operands.

       bs=BYTES
              read and write up to BYTES bytes at a time (default: 512); overrides ibs and obs

       cbs=BYTES
              convert BYTES bytes at a time

       conv=CONVS
              convert the file as per the comma separated symbol list

       count=N
              copy only N input blocks

       ibs=BYTES
              read up to BYTES bytes at a time (default: 512)

       if=FILE
              read from FILE instead of stdin

       iflag=FLAGS
              read as per the comma separated symbol list

       obs=BYTES
              write BYTES bytes at a time (default: 512)

       of=FILE
              write to FILE instead of stdout

       oflag=FLAGS
              write as per the comma separated symbol list

       seek=N skip N obs-sized blocks at start of output

       skip=N skip N ibs-sized blocks at start of input

       status=LEVEL
              The  LEVEL  of  information  to  print to stderr; 'none' suppresses everything but error messages, 'noxfer' suppresses the final
              transfer statistics, 'progress' shows periodic transfer statistics

       N and BYTES may be followed by the following multiplicative suffixes: c=1, w=2,  b=512,  kB=1000,  K=1024,  MB=1000*1000,  M=1024*1024,
       xM=M, GB=1000*1000*1000, G=1024*1024*1024, and so on for T, P, E, Z, Y.  Binary prefixes can be used, too: KiB=K, MiB=M, and so on.

       Each CONV symbol may be:

       ascii  from EBCDIC to ASCII

       ebcdic from ASCII to EBCDIC

       ibm    from ASCII to alternate EBCDIC

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

Kariev Lab.

➢ Yes

```
YES(1)                                              User Commands

NAME
       yes - output a string repeatedly until killed

SYNOPSIS
       yes [STRING]...
       yes OPTION

DESCRIPTION
       Repeatedly output a line with all specified STRING(s), or 'y'.

       --help display this help and exit

       --version
              output version information and exit

AUTHOR
       Written by David MacKenzie.

REPORTING BUGS
       GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
       Report any translation bugs to <https://translationproject.org/team/>

SEE ALSO
       Full documentation <https://www.gnu.org/software/coreutils/yes>
       or available locally via: info '(coreutils) yes invocation'

       Packaged by Cygwin (9.0-1)
       Copyright © 2021 Free Software Foundation, Inc.
       License GPLv3+: GNU GPL version 3 or later <https://gnu.org/licenses/gpl.html>.
       This is free software: you are free to change and redistribute it.
       There is NO WARRANTY, to the extent permitted by law.

GNU coreutils 9.0                                   September 2021
```

Kariev Lab.

➢ Uname

```
UNAME(1)                                                      User Commands

NAME
       uname - print system information

SYNOPSIS
       uname [OPTION]...

DESCRIPTION
       Print certain system information.  With no OPTION, same as -s.

       -a, --all
              print all information, in the following order, except omit -p and -i if unknown:

       -s, --kernel-name
              print the kernel name

       -n, --nodename
              print the network node hostname

       -r, --kernel-release
              print the kernel release

       -v, --kernel-version
              print the kernel version

       -m, --machine
              print the machine hardware name

       -p, --processor
              print the processor type (non-portable)

       -i, --hardware-platform
              print the hardware platform (non-portable)

       -o, --operating-system
              print the operating system

       --help display this help and exit

       --version
              output version information and exit

AUTHOR
       Written by David MacKenzie.

REPORTING BUGS
       GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
       Report any translation bugs to <https://translationproject.org/team/>

SEE ALSO
       arch(1), uname(2)

       Full documentation <https://www.gnu.org/software/coreutils/uname>
       or available locally via: info '(coreutils) uname invocation'

       Packaged by Cygwin (9.0-1)
       Copyright © 2021 Free Software Foundation, Inc.
       License GPLv3+: GNU GPL version 3 or later <https://gnu.org/licenses/gpl.html>.
       This is free software: you are free to change and redistribute it.
       There is NO WARRANTY, to the extent permitted by law.
 Manual page uname(1) line 1 (press h for help or q to quit)
```

Kariev Lab.

➢ Grep

```
GREP(1)                              User Commands                              GREP(1)

NAME
       grep - print lines that match patterns

SYNOPSIS
       grep [OPTION...] PATTERNS [FILE...]
       grep [OPTION...] -e PATTERNS ... [FILE...]
       grep [OPTION...] -f PATTERN_FILE ... [FILE...]

DESCRIPTION
       grep  searches  for PATTERNS in each FILE.  PATTERNS is one or more patterns separated by newline characters, and grep prints each line
       that matches a pattern.  Typically PATTERNS should be quoted when grep is used in a shell command.

       A FILE of "-" stands for standard input.  If no FILE is given, recursive searches  examine  the  working  directory,  and  nonrecursive
       searches read standard input.

OPTIONS
   Generic Program Information
       --help Output a usage message and exit.

       -V, --version
              Output the version number of grep and exit.

   Pattern Syntax
       -E, --extended-regexp
              Interpret PATTERNS as extended regular expressions (EREs, see below).

       -F, --fixed-strings
              Interpret PATTERNS as fixed strings, not regular expressions.

       -G, --basic-regexp
              Interpret PATTERNS as basic regular expressions (BREs, see below).  This is the default.

       -P, --perl-regexp
              Interpret  PATTERNS  as  Perl-compatible  regular  expressions  (PCREs).   This option is experimental when combined with the -z
              (--null-data) option, and grep -P may warn of unimplemented features.

   Matching Control
       -e PATTERNS, --regexp=PATTERNS
              Use PATTERNS as the patterns.  If this option is used multiple times or is combined with the -f (--file) option, search for  all
              patterns given.  This option can be used to protect a pattern beginning with "-".

       -f FILE, --file=FILE
              Obtain  patterns  from  FILE, one per line.  If this option is used multiple times or is combined with the -e (--regexp) option,
              search for all patterns given.  The empty file contains zero patterns, and therefore matches nothing.

       -i, --ignore-case
              Ignore case distinctions in patterns and input data, so that characters that differ only in case match each other.

       --no-ignore-case
              Do not ignore case distinctions in patterns and input data.  This is the default.  This option is useful for  passing  to  shell
              scripts that already use -i, to cancel its effects because the two options override each other.

       -v, --invert-match
              Invert the sense of matching, to select non-matching lines.

       -w, --word-regexp
              Select only those lines containing matches that form whole words.  The test is that the matching substring must either be at the
              beginning of the line, or preceded by a non-word constituent character.  Similarly, it must be either at the end of the line  or
              followed by a non-word constituent character.  Word-constituent characters are letters, digits, and the underscore.  This option
Manual page grep(1) line 1 (press h for help or q to quit)
```

➢ Exit

```
BASH_BUILTINS(1)                     General Commands Manual                     BASH_BUILTINS(1)

NAME
       bash, :, ., [, alias, bg, bind, break, builtin, caller, cd, command, compgen, complete, compopt, continue, declare, dirs, disown, echo,
       enable, eval, exec, exit, export, false, fc, fg, getopts, hash, help, history, jobs, kill, let, local, logout, mapfile,  popd,  printf,
       pushd, pwd, read, readonly, return, set, shift, shopt, source, suspend, test, times, trap, true, type, typeset, ulimit, umask, unalias,
       unset, wait - bash built-in commands, see bash(1)

BASH BUILTIN COMMANDS
SEE ALSO
       bash(1), sh(1)

GNU Bash-4.2                              2004 Apr 20                              BASH_BUILTINS(1)
Manual page exit(1) line 1/13 (END) (press h for help or q to quit)
```

➢ Создание директивы

```
PC@DESKTOP-T5BKQ5D ~
$ mkdir dir1


PC@DESKTOP-T5BKQ5D ~
$ cd dir1
```

➢ Определить версию

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ uname --version
uname (GNU coreutils) 9.0
Packaged by Cygwin (9.0-1)
Copyright (C) 2021 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <https://gnu.org/licenses/gpl.html>.
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.


Written by David MacKenzie.
```

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ uname --version > file2
```

➢ $PATH

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ echo $PATH >> file2

PC@DESKTOP-T5BKQ5D ~/dir1
$ cat file2
uname (GNU coreutils) 9.0
Packaged by Cygwin (9.0-1)
Copyright (C) 2021 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <https://gnu.org/licenses/gpl.html>.
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.


Written by David MacKenzie.
```

➢ Сведения о системе в другой файл

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ uname > file3

PC@DESKTOP-T5BKQ5D ~/dir1
$ cat file3
CYGWIN_NT-10.0-19043
```

➢ Изменить права доступа

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ uname > file3

PC@DESKTOP-T5BKQ5D ~/dir1
$ cat file3
CYGWIN_NT-10.0-19043

PC@DESKTOP-T5BKQ5D ~/dir1
$ chmod o-r file2

PC@DESKTOP-T5BKQ5D ~/dir1
$ chmod o-r file3

PC@DESKTOP-T5BKQ5D ~/dir1
$ ls -al file2
-rw-r----- 1 PC Отсутствует 716 Oct 19 15:51 file2

PC@DESKTOP-T5BKQ5D ~/dir1
$ ls -al file3
-rw-r----- 1 PC Отсутствует 21 Oct 19 16:12 file3
```

Kariev Lab.

➢ Полные сведения

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ ls -l
total 2
-rw-r----- 1 PC Отсутствует 716 Oct 19 15:51 file2
-rw-r----- 1 PC Отсутствует  21 Oct 19 16:12 file3
```

➢ Посчитать количество процессов

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ ps
      PID    PPID    PGID    WINPID   TTY        UID    STIME COMMAND
      897     878     897      7696   pty0    197609 16:15:30 /usr/bin/ps
      878     877     878     11312   pty0    197609 15:36:44 /usr/bin/bash
      877       1     877     11608   ?       197609 15:36:42 /usr/bin/mintty
```

➢ Sh

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ sh
```

➢ Посчитать количество процессов

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ ps
      PID    PPID    PGID    WINPID   TTY        UID    STIME COMMAND
      899     898     899      8120   pty0    197609 16:15:42 /usr/bin/ps
      878     877     878     11312   pty0    197609 15:36:44 /usr/bin/bash
      898     878     898      8804   pty0    197609 16:15:34 /usr/bin/sh
      877       1     877     11608   ?       197609 15:36:42 /usr/bin/mintty
```

➢ Завершить shell

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ kill -KILL 898
Killed

PC@DESKTOP-T5BKQ5D ~/dir1
$ ps
      PID    PPID    PGID    WINPID   TTY        UID    STIME COMMAND
      900     878     900      6036   pty0    197609 16:16:07 /usr/bin/ps
      878     877     878     11312   pty0    197609 15:36:44 /usr/bin/bash
      877       1     877     11608   ?       197609 15:36:42 /usr/bin/mintty
```

Kariev Lab.

➢ Nano

➢ Ссоздать файл

➤ Вывести сведения

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ echo /etc/passwd
/etc/passwd
```

➤ Help

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ help
GNU bash, version 4.4.12(3)-release (x86_64-unknown-cygwin)
These shell commands are defined internally.  Type `help' to see this list.
Type `help name' to find out more about the function `name'.
Use `info bash' to find out more about the shell in general.
Use `man -k' or `info' to find out more about commands not in this list.

A star (*) next to a name means that the command is disabled.

 job_spec [&]                                        history [-c] [-d offset] [n] or history -anrw [filename] >
 (( expression ))                                    if COMMANDS; then COMMANDS; [ elif COMMANDS; then COMMAND>
 . filename [arguments]                              jobs [-lnprs] [jobspec ...] or jobs -x command [args]
 :                                                   kill [-s sigspec | -n signum | -sigspec] pid | jobspec ..>
 [ arg... ]                                          let arg [arg ...]
 [[ expression ]]                                    local [option] name[=value] ...
 alias [-p] [name[=value] ... ]                      logout [n]
 bg [job_spec ...]                                   mapfile [-d delim] [-n count] [-O origin] [-s count] [-t]>
 bind [-lpsvPSVX] [-m keymap] [-f filename] [-q name] [-u n>  popd [-n] [+N | -N]
 break [n]                                           printf [-v var] format [arguments]
 builtin [shell-builtin [arg ...]]                   pushd [-n] [+N | -N | dir]
 caller [expr]                                       pwd [-LP]
 case WORD in [PATTERN [| PATTERN]...) COMMANDS ;;]... esa>  read [-ers] [-a array] [-d delim] [-i text] [-n nchars] [>
 cd [-L|[-P [-e]] [-@]] [dir]                        readarray [-n count] [-O origin] [-s count] [-t] [-u fd] >
 command [-pVv] command [arg ...]                    readonly [-aAf] [name[=value] ...] or readonly -p
 compgen [-abcdefgjksuv] [-o option] [-A action] [-G globpa>  return [n]
 complete [-abcdefgjksuv] [-pr] [-DE] [-o option] [-A actio>  select NAME [in WORDS ... ;] do COMMANDS; done
 compopt [-o|+o option] [-DE] [name ...]             set [-abefhkmnptuvxBCHP] [-o option-name] [--] [arg ...]
 continue [n]                                        shift [n]
 coproc [NAME] command [redirections]                shopt [-pqsu] [-o] [optname ...]
 declare [-aAfFgilnrtux] [-p] [name[=value] ...]     source filename [arguments]
 dirs [-clpv] [+N] [-N]                              suspend [-f]
 disown [-h] [-ar] [jobspec ... | pid ...]           test [expr]
 echo [-neE] [arg ...]                               time [-p] pipeline
 enable [-a] [-dnps] [-f filename] [name ...]        times
 eval [arg ...]                                      trap [-lp] [[arg] signal_spec ...]
 exec [-cl] [-a name] [command [arguments ...]] [redirectio>  true
 exit [n]                                            type [-afptP] name [name ...]
 export [-fn] [name[=value] ...] or export -p        typeset [-aAfFgilnrtux] [-p] name[=value] ...
 false                                               ulimit [-SHabcdefiklmnpqrstuvxPT] [limit]
 fc [-e ename] [-lnr] [first] [last] or fc -s [pat=rep] [co>  umask [-p] [-S] [mode]
 fg [job_spec]                                       unalias [-a] name [name ...]
 for NAME [in WORDS ... ] ; do COMMANDS; done        unset [-f] [-v] [-n] [name ...]
 for (( exp1; exp2; exp3 )); do COMMANDS; done       until COMMANDS; do COMMANDS; done
 function name { COMMANDS ; } or name () { COMMANDS ; }  variables - Names and meanings of some shell variables
 getopts optstring name [arg]                        wait [-n] [id ...]
 hash [-lr] [-p pathname] [-dt] [name ...]           while COMMANDS; do COMMANDS; done
 help [-dms] [pattern ...]                           { COMMANDS ; }

PC@DESKTOP-T5BKQ5D ~/dir1
$
```

Kariev Lab.

➢ If, for, while, until

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ help if
if: if COMMANDS; then COMMANDS; [ elif COMMANDS; then COMMANDS; ]... [ else COMMANDS; ] fi
    Execute commands based on conditional.

    The `if COMMANDS' list is executed.  If its exit status is zero, then the
    `then COMMANDS' list is executed.  Otherwise, each `elif COMMANDS' list is
    executed in turn, and if its exit status is zero, the corresponding
    `then COMMANDS' list is executed and the if command completes.  Otherwise,
    the `else COMMANDS' list is executed, if present.  The exit status of the
    entire construct is the exit status of the last command executed, or zero
    if no condition tested true.

    Exit Status:
    Returns the status of the last command executed.

PC@DESKTOP-T5BKQ5D ~/dir1
$ help for
for: for NAME [in WORDS ... ] ; do COMMANDS; done
    Execute commands for each member in a list.

    The `for' loop executes a sequence of commands for each member in a
    list of items.  If `in WORDS ...;' is not present, then `in "$@"' is
    assumed.  For each element in WORDS, NAME is set to that element, and
    the COMMANDS are executed.

    Exit Status:
    Returns the status of the last command executed.

PC@DESKTOP-T5BKQ5D ~/dir1
$ help while
while: while COMMANDS; do COMMANDS; done
    Execute commands as long as a test succeeds.

    Expand and execute COMMANDS as long as the final command in the
    `while' COMMANDS has an exit status of zero.

    Exit Status:
    Returns the status of the last command executed.

PC@DESKTOP-T5BKQ5D ~/dir1
$ help until
until: until COMMANDS; do COMMANDS; done
    Execute commands as long as a test does not succeed.

    Expand and execute COMMANDS as long as the final command in the
    `until' COMMANDS has an exit status which is not zero.

    Exit Status:
    Returns the status of the last command executed.
```

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ help [[ expression]]
[[ ... ]]: [[ expression ]]
    Execute conditional command.

    Returns a status of 0 or 1 depending on the evaluation of the conditional
    expression EXPRESSION.  Expressions are composed of the same primaries used
    by the `test' builtin, and may be combined using the following operators:

      ( EXPRESSION )      Returns the value of EXPRESSION
      ! EXPRESSION              True if EXPRESSION is false; else false
      EXPR1 && EXPR2    True if both EXPR1 and EXPR2 are true; else false
      EXPR1 || EXPR2    True if either EXPR1 or EXPR2 is true; else false

    When the `==' and `!=' operators are used, the string to the right of
    the operator is used as a pattern and pattern matching is performed.
    When the `=~' operator is used, the string to the right of the operator
    is matched as a regular expression.

    The && and || operators do not evaluate EXPR2 if EXPR1 is sufficient to
    determine the expression's value.

    Exit Status:
    0 or 1 depending on value of EXPRESSION.
```

➢ Создать директорию

```
PC@DESKTOP-T5BKQ5D ~
$ mkdir dir1

PC@DESKTOP-T5BKQ5D ~
$ cd dir1
```

➢ Присвоить значерие переменной

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ echo hello
hello

PC@DESKTOP-T5BKQ5D ~/dir1
$ hello="hi, man"

PC@DESKTOP-T5BKQ5D ~/dir1
$ echo $hello
hi, man
```

➢ Рандомное число

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ echo $RANDOM
2743
```

➢ Записать скрипт в файл

```
  GNU nano 4.9
#!/bin/bash
echo "hello man"
```

➢ Сделать файл исполняемым

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ ls -l
total 3
-rw-r--r-- 1 PC Отсутствует 570 Oct 19 16:21 file1
-rw-r----- 1 PC Отсутствует  29 Oct 19 16:28 file2
-rw-r----- 1 PC Отсутствует  21 Oct 19 16:12 file3

PC@DESKTOP-T5BKQ5D ~/dir1
$ chmod a+x file2

PC@DESKTOP-T5BKQ5D ~/dir1
$ ls -l
total 3
-rw-r--r-- 1 PC Отсутствует 570 Oct 19 16:21 file1
-rwxr-x--x 1 PC Отсутствует  29 Oct 19 16:28 file2
-rw-r----- 1 PC Отсутствует  21 Oct 19 16:12 file3

PC@DESKTOP-T5BKQ5D ~/dir1
$ ./file2
hello man
```

➢ Скрипт по варианту (вывести на экран количество пользователей зарегистрированных в системе)

```
  GNU nano 4.9
#!/bin/bash
for var in list
do
compgen -u
done
```

```
PC@DESKTOP-T5BKQ5D ~/dir1
$ chmod a+x file1

PC@DESKTOP-T5BKQ5D ~/dir1
$ ./file1
PC
СИСТЕМА
Unknown+User
СИСТЕМА
LOCAL SERVICE
NETWORK SERVICE
Администраторы
NT SERVICE+TrustedInstaller
```

➢ Удалить дирикторию

```
PC@DESKTOP-T5BKQ5D ~
$ rm -R dir1
```