

# Командная оболочка Midnight Commander

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# Цели и задачи работы

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## 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 возможности Midnight Commander
- 2 Изучить редактор Midnight Commander

# **Процесс выполнения лабораторной работы**

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## Работа с Midnight Commander

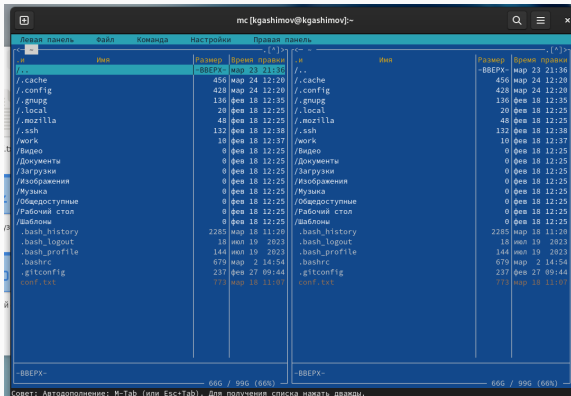


Рис. 1: Запуск ms

# Работа с Midnight Commander

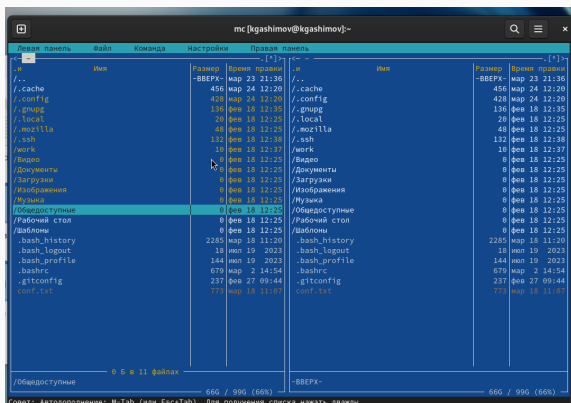


Рис. 2: Выделение

# Работа с Midnight Commander

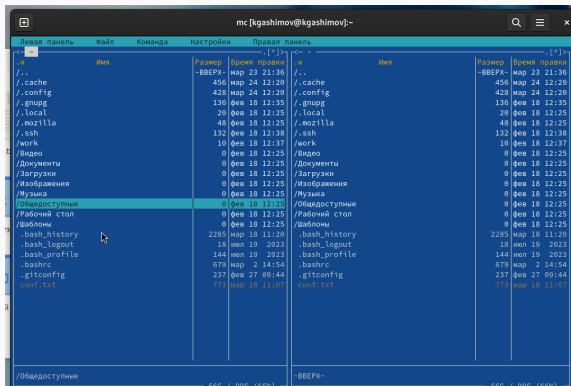


Рис. 3: Отмена



# Работа с Midnight Commander

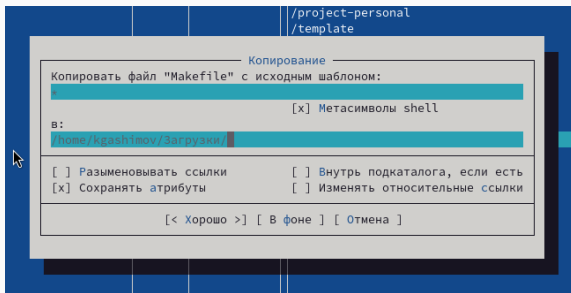


Рис. 4: Копирование

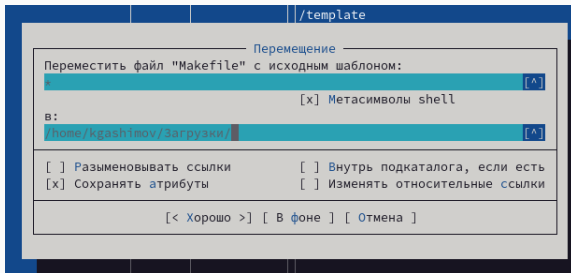


Рис. 5: Перемещение

# Работа с Midnight Commander

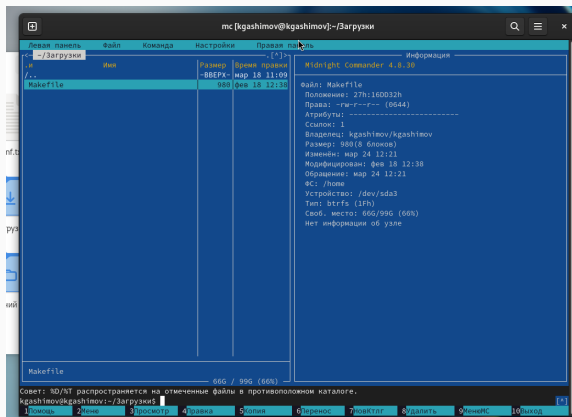


Рис. 6: Информация

# Работа с Midnight Commander

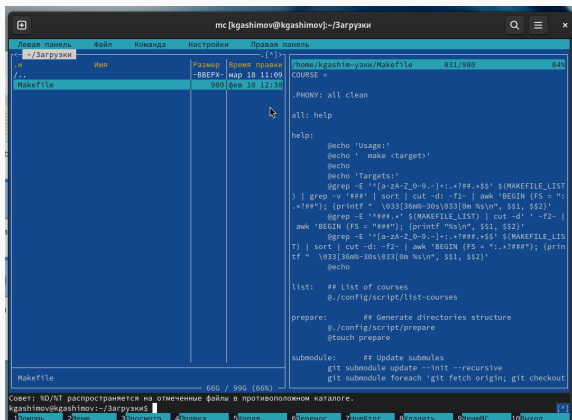


Рис. 7: Быстрый просмотр

# Работа с Midnight Commander

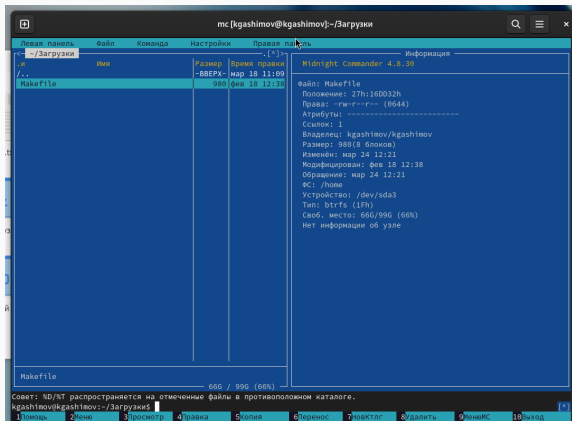


Рис. 8: Информация

# Работа с Midnight Commander

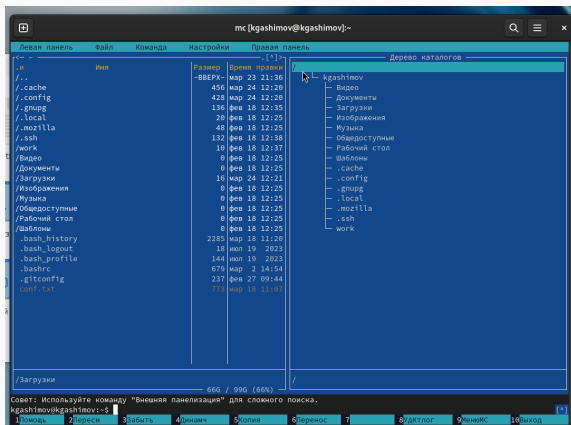
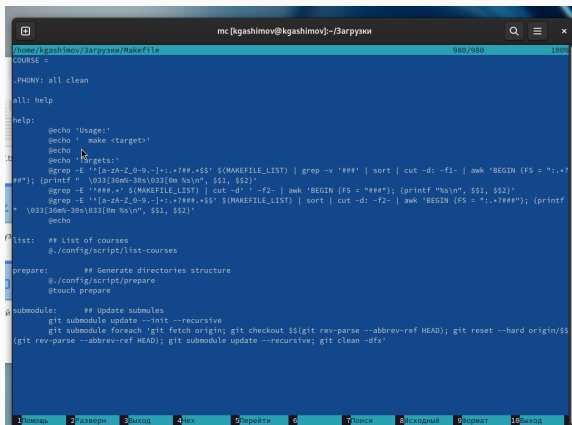


Рис. 9: Дерево каталогов

# Работа с Midnight Commander



The screenshot shows a terminal window titled "mc [kgashimov@kgashimov]: ~/Загрузки". The terminal displays the contents of a file named "Makefile" located at "/home/kgashimov/Загрузки/Makefile". The file content includes a "COURSE =" line, a ".PHONY: all clean" declaration, an "all: help" target, a "help:" target with an @echo command, and a "list:" target that lists courses. There are also "prepare:" and "submodule:" targets with complex shell commands involving git and awk. The terminal window has a dark blue background and a light blue title bar. At the bottom, there is a status bar with icons for various file operations like "Помощь", "Разверн", "Выход", etc.

```
mc [kgashimov@kgashimov]: ~/Загрузки
/home/kgashimov/Загрузки/Makefile 900/900 100%
COURSE =

.PHONY: all clean

all: help

help:
    @echo 'Usage:'
    @echo ' make <target>'
    @echo
    @echo 'Targets:'
    @grep -E '[a-zA-Z_0-9-]+\.[a-zA-Z_0-9-]+\.[a-zA-Z_0-9-]+' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1 | awk 'BEGIN {FS = ":[a-zA-Z_0-9-]+\.[a-zA-Z_0-9-]+\.[a-zA-Z_0-9-]+"}; {printf "%33s\n", $1}'
    @grep -E '[a-zA-Z_0-9-]+\.[a-zA-Z_0-9-]+\.[a-zA-Z_0-9-]+' $(MAKEFILE_LIST) | cut -d: -f2 | awk 'BEGIN {FS = ":[a-zA-Z_0-9-]+\.[a-zA-Z_0-9-]+\.[a-zA-Z_0-9-]+"}; {printf "%33s\n", $1}'
    @echo

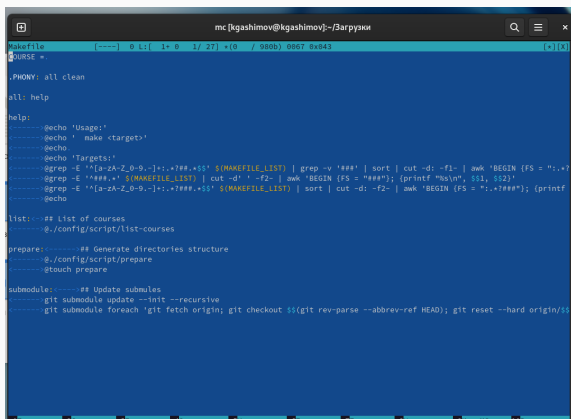
list: ## List of courses
    @./config/script/list-courses

prepare: ## Generate directories structure
    @./config/script/prepare
    @touch prepare

submodule: ## Update submodules
    git submodule update --init --recursive
    git submodule foreach 'git fetch origin; git checkout $(git rev-parse --abbrev-ref HEAD); git reset --hard origin/$$
    (git rev-parse --abbrev-ref HEAD); git submodule update --recursive; git clean -dfx'
```

Рис. 10: Просмотр содержимого текстового файла

# Работа с Midnight Commander



The screenshot shows the Midnight Commander (MC) interface. The title bar indicates the user is 'mc [kgashimov@kgashimov] ~ / Вarpуки'. The main window displays a file named 'Makefile' with a status bar at the top showing '[----] 0 L: [ 1+ 0 1/ 27] \* (0 / 980b) 0867 0x843'. The file content is a Makefile with the following visible sections:

```
Makefile
COURSE = .

.PHONY: all clean

all: help

help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '^[a-zA-Z_0-9-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {FS = " ";}
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###";} {printf "%s\n", $1, $2}'
-----@grep -E '^[a-zA-Z_0-9-]+:.*?##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = " ";} {printf
-----@echo

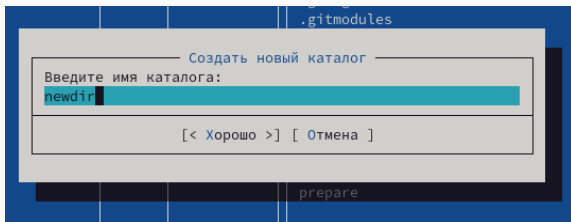
list:--## List of courses
-----@./config/script/list-courses

prepare:-----## Generate directories structure
-----@./config/script/prepare
-----@touch prepare

submodule:-----## Update submules
-----@git submodule update --init --recursive
-----@git submodule foreach 'git fetch origin; git checkout $(git rev-parse --abbrev-ref HEAD); git reset --hard origin/$$'
```

**Рис. 11:** Отредактируем содержимое текстового файла без сохранения результатов





**Рис. 12:** Создание каталога

# Работа с Midnight Commander

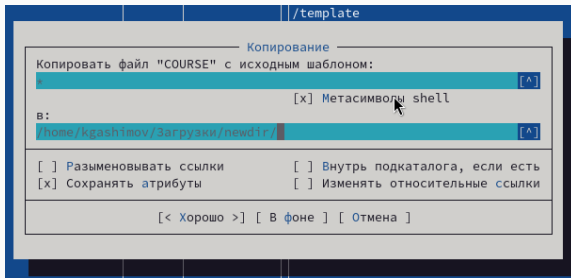


Рис. 13: Копирование в файлов в созданный каталог

# Работа с Midnight Commander

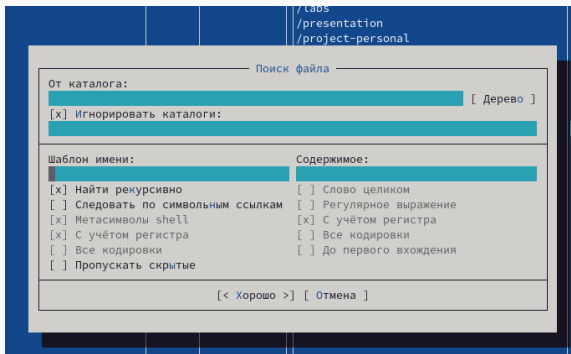


Рис. 14: Поиск файлов

# Работа с Midnight Commander

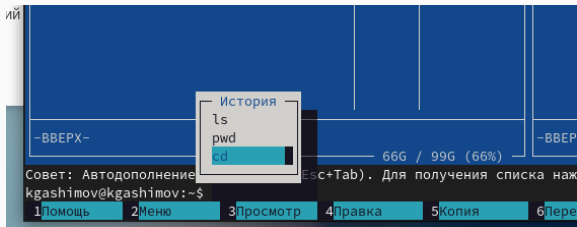
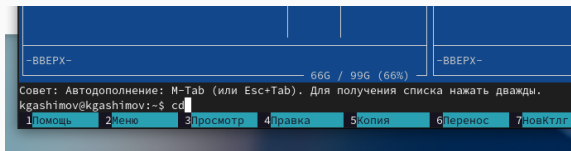


Рис. 15: История команд



**Рис. 16:** Переход в домашний каталог

# Работа с Midnight Commander

```
mc.ext.ini [-----] 0 L: [ 1+ 0 1/1136] *0 /26909b/0035 0x023 [*][X]
# Midnight Commander 4.8 extension file
#
# Warning: The structure of this file has been completely changed with the version 4.0!
#
# All lines starting with # or empty lines are ignored.
#
# IMPORTANT: mc scans this file only upon first use or after editing it using the
# mc "Edit extension file" command (F8-c-e). If you edit this file in any other way
# while mc is running, you will need to press F8-c-e and exit the editor for your
# changes to take effect, or exit mc and start it again.
#
# Section name can be anything with following exceptions:
#   there are two reserved section names:
#       mc.ext.ini
#       Default
#   special name pattern:
#       Include/xxxx
#   See below for more details.
#
# Section [mc.ext.ini] is mandatory. It contains file metadata.
# "Version" parameter is mandatory. It contains the file format version.
#
# Section [Default] is optional. It is applied only if no other match was found.
#
# Sections like [Include/xxxx] can be referenced as "Include=xxxx" from other sections.
# Section [Include/xxxx] can be located as before as after sections that point to it.
#
# Sections are processed from top to bottom, thus the order is important.
# If there are more than one sections with the same name in this file, the first
# section will be used.
#
# [Default] should be a catch-all action and come last.
#
```

Рис. 17: Просмотр файла расширений

# Работа с Midnight Commander

A screenshot of the Midnight Commander file menu. The window title is "menu" with a status bar at the bottom showing "1: Помощь 2: Сохранить 3: Поиск 4: Имена 5: Скопия 6: Перенести 7: Повтор 8: Добавить 9: НайтиС 10: Выход". The menu content includes options like "shell\_patterns=0", "#####", "F The % character", "f The current file", "p The current file", "d The current working directory", "s \"Selected files\"; the tagged files if any, otherwise the current file", "t Tagged files", "u Tagged files (and they are untagged on return from expand\_format)", "v view Runs the commands and pipes standard output to the view command", "If vview is immediately followed by 'l', recognize keywords", "ascii, hex, nroff and unform", "If the format letter is in uppercase, it refers to the other panel", "With a number followed the % character you can turn quoting on (default) and off. For example:", "f quote expanded macro", "f ditto", "f don't quote expanded macro", "#####", "t t Do something on the current file CMD=:(Enter command) SCMD f", "t t Do something on the tagged files CMD=:(Enter command) for i in \$t ; do", and a status bar at the bottom with 10 numbered buttons: 1: Помощь, 2: Сохранить, 3: Поиск, 4: Имена, 5: Скопия, 6: Перенести, 7: Повтор, 8: Добавить, 9: НайтиС, 10: Выход.

```
menu [-----] 1 t: 1*16 17/378 *(732 /11821b) 0010 0x00A [x]
shell_patterns=0

#####
# % The % character
# f The current file (if non-local vfs, file will be copied locally and
# % will be full path to it)
# p The current file
# d The current working directory
# s "Selected files"; the tagged files if any, otherwise the current file
# t Tagged files
# u Tagged files (and they are untagged on return from expand_format)
# v view Runs the commands and pipes standard output to the view command
# If vview is immediately followed by 'l', recognize keywords
# ascii, hex, nroff and unform
#
# If the format letter is in uppercase, it refers to the other panel
#
# With a number followed the % character you can turn quoting on (default)
# and off. For example:
# %f quote expanded macro
# %if ditto
# %of don't quote expanded macro
#####

+ t t
| Do something on the current file
| CMD=:(Enter command)
| SCMD f

+ t t
| Do something on the tagged files
| CMD=:(Enter command)
| for i in $t ; do
```

Рис. 18: Просмотр файла меню

# Работа с Midnight Commander



Рис. 19: Конфигурация



# Работа с Midnight Commander



Рис. 20: Внешний вид

# Работа с Midnight Commander



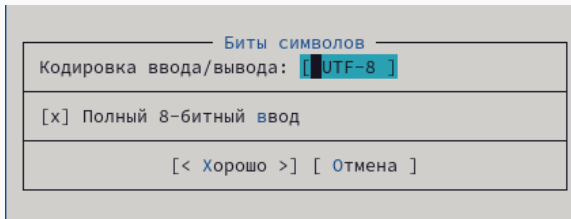
Рис. 21: Настройки панелей



Рис. 22: Подтверждение



**Рис. 23:** Оформление



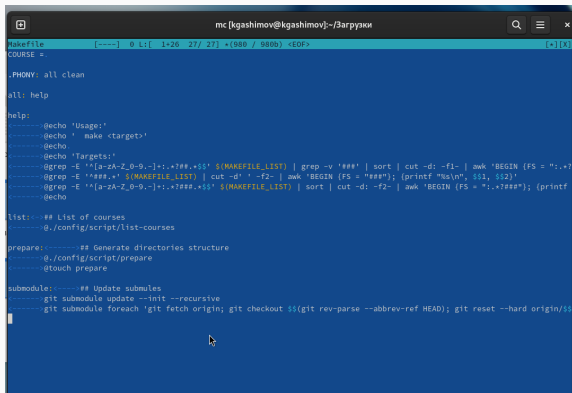
**Рис. 24:** Кодировка символов

# Работа с Midnight Commander



Рис. 25: Распознавание клавиш

# Работа с редактором Midnight Commander



The screenshot shows the Midnight Commander (mc) interface. The title bar indicates the user is 'mc [kgashimov@kgashimov]: ~/Зарядки'. The file being edited is 'Makefile', with a status bar showing '0 L: 1+20 27/ 27' and '\*(980 / 980b) <EOF>'. The file content is a Makefile with the following text:

```
Makefile
COURSE =

.PHONY: all clean

all: help

help:
-----@echo 'Usage:'
-----@echo '  make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '^[a-zA-Z_0-9-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {FS = ".*?";}
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###";} {printf "%s\n", $$1, $$2}'
-----@grep -E '^[a-zA-Z_0-9-]+:.*?###.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = ".*?###";} {printf
-----@echo

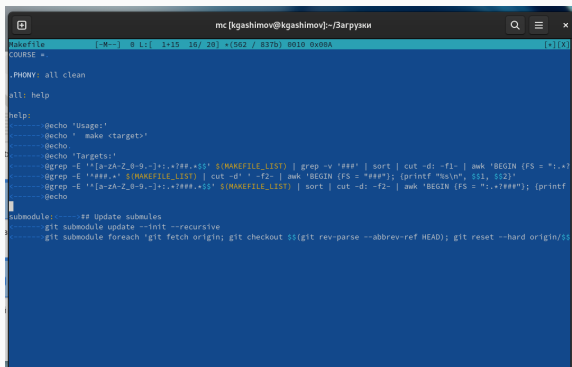
list:#### List of courses
-----@./config/script/list-courses

prepare:-----## Generate directories structure
-----@./config/script/prepare
-----@touch prepare

submodule:-----## Update submodules
-----git submodule update --init --recursive
-----git submodule foreach 'git fetch origin; git checkout $$ (git rev-parse --abbrev-ref HEAD); git reset --hard origin/$$'
```

Рис. 26: Файл с текстом

# Работа с редактором Midnight Commander



The screenshot shows a terminal window titled "mc [kgashimov@kgashimov]:~/Загрузки". The terminal displays the contents of a file named "Makefile". The text in the terminal is as follows:

```
Makefile      [-M--]  8 L: [ 1+15 16/ 20] * (562 / 837b) 8010 0x08A      [+](X)
COURSE *.

.PHONY: all clean

all: help

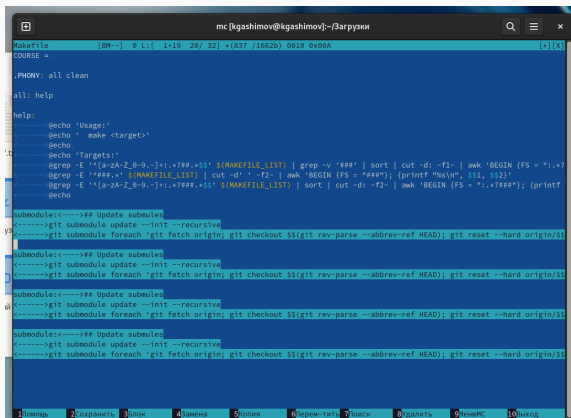
help:
-----@echo 'Usage:'
-----@echo '  make <target>'
-----@echo.
-----@echo 'Targets:'
-----@grep -E '[a-zA-Z_0-9-]*:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '##' | sort | cut -d: -f1- | awk 'BEGIN {FS = ".*?";}
-----@grep -E '[a-zA-Z_0-9-]*:.*?##.*$$' $(MAKEFILE_LIST) | cut -d: -f2- | awk 'BEGIN {FS = "##"}; {printf "%s\n", $1, $2}'
-----@grep -E '[a-zA-Z_0-9-]*:.*?##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = ".*?##"}; {printf
-----@echo

submodule:-----## Update submodules
-----git submodule update --init --recursive
-----git submodule foreach 'git fetch origin; git checkout $(git rev-parse --abbrev-ref HEAD); git reset --hard origin/$$
```

Рис. 27: Файл с текстом



# Работа с редактором Midnight Commander



The screenshot shows the Midnight Commander (MC) interface. The title bar indicates the user is 'mc [kgashimov@kgashimov] ~/Загрузки'. The main window displays a file named 'Makefile' with a size of 0 bytes, last modified on 1-19-20 at 32:00, and permissions of -rwxr-xr-x. The file content is a Makefile with a 'submodule' target. The command for the 'submodule' target is: `git submodule update --init --recursive`. The file is highlighted in blue. The bottom status bar shows various keyboard shortcuts: 1.Помощь, 2.Сохранить, 3.Плюс, 4.Изменить, 5.Скопировать, 6.Параметры, 7.Зонки, 8.Далее, 9.Назад, 10.Выход.

```
Makefile 0 L: 1-19 20/ 32) * (837 /1662b) 0B18 0x00A
COURSE =

.PHONY: all clean

all: help

help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '[a-zA-Z_0-9-]*:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1 | awk 'BEGIN {FS = ".*?";}
-----@grep -E '[a-zA-Z_0-9-]*:.*?##.*$$' $(MAKEFILE_LIST) | cut -d: -f2 | awk 'BEGIN {FS = ".*?";} {print "%s\n", $1, $2}'
-----@echo
-----@echo

submodule:-----## Update submodules
----->git submodule update --init --recursive
----->git submodule foreach 'git fetch origin; git checkout $(git rev-parse --abbrev-ref HEAD); git reset --hard origin/$$'
```

Рис. 28: Копирование фрагмента

# Работа с редактором Midnight Commander

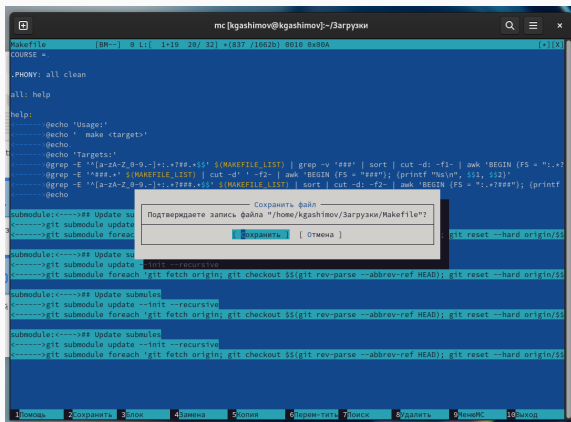


Рис. 29: Сохранение

# Работа с редактором Midnight Commander

```
mc [kgashimov@kgashimov] ~/Варпуки
Makefile  [BH--]  0 Ls:  1-19  20/ 24)  *(-R37 /1112b) 0010 0x00A  [-][X]
COURSE =

.PHONY: all clean

all: help

help:
#####@echo 'Usage:'
#####@echo ' make <target>'
#####@echo
#####@echo 'Targets:'
#####@grep -E '^[a-zA-Z_0-9-]*[[:.]]*##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN (FS = "[:.]]")
#####@grep -E '###.*' $(MAKEFILE_LIST) | cut -d: -f2- | awk 'BEGIN (FS = "###"); (printf "%s\n", $$1, $$2)'
#####@grep -E '^[a-zA-Z_0-9-]*[[:.]]*##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN (FS = "[:.]]*##"); (printf
#####@echo

submodule:##### Update submodules
##### git submodule update --init --recursive
##### git submodule foreach 'git fetch origin; git checkout $(git rev-parse --abbrev-ref HEAD); git reset --hard origin/$$

submodule:##### Update submodules
##### git submodule update --init --recursive
##### git submodule foreach 'git fetch origin; git checkout $(git rev-parse --abbrev-ref HEAD); git reset --hard origin/$$

1.Помощь 2.Сохранить 3.Блок 4.Замена 5.Копия 6.Перем-тит 7.Поиск 8.Удалить 9.Меню 10.Выход
```

Рис. 30: Отмена

# Работа с редактором Midnight Commander

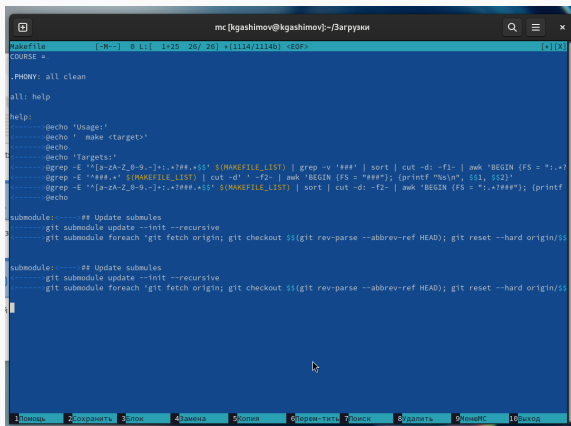
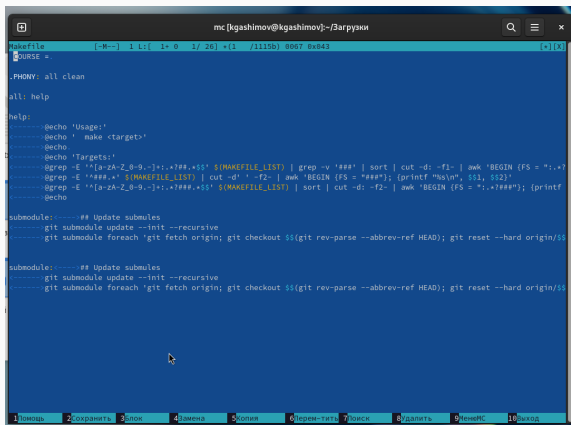


Рис. 31: Переход в конец файла

# Работа с редактором Midnight Commander



The screenshot shows a terminal window titled "mc [kgashimov@kgashimov]~/Загрузки". The main area displays a Makefile with the following content:

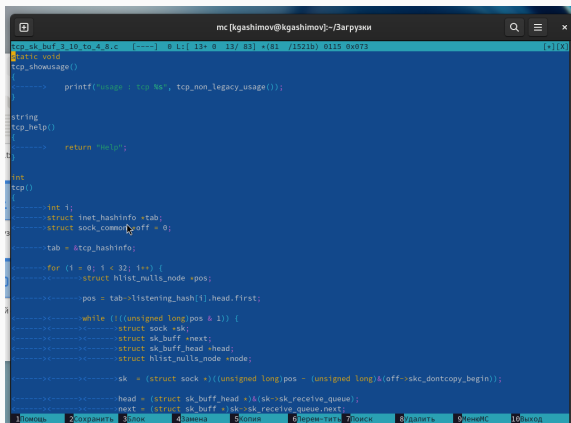
```
Makefile      [-M--]  1 L: [ 1+ 0  1/ 26] *(1  /1115b) 0067 8x843  [.] [X]
PURSE =
.PHONY: all clean
all: help
help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '^[a-zA-Z_0-9-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '##' | sort | cut -d: -f1- | awk 'BEGIN {FS = ":.*/?";}
-----@grep -E '##.*$$' $(MAKEFILE_LIST) | cut -d: -f2- | awk 'BEGIN {FS = "##";} {printf "%s\n", $$1, $$2}'
-----@grep -E '^[a-zA-Z_0-9-]+:.*?##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = ":.*/?##";} {printf
-----@echo
submodule:-----## Update submodules
-----git submodule update --init --recursive
-----git submodule foreach 'git fetch origin; git checkout $(git rev-parse --abbrev-ref HEAD); git reset --hard origin/$$
submodule:-----## Update submodules
-----git submodule update --init --recursive
-----git submodule foreach 'git fetch origin; git checkout $(git rev-parse --abbrev-ref HEAD); git reset --hard origin/$$
```

At the bottom of the window, a row of navigation shortcuts is visible:

|         |           |      |        |       |           |       |         |      |       |
|---------|-----------|------|--------|-------|-----------|-------|---------|------|-------|
| 1       | 2         | 3    | 4      | 5     | 6         | 7     | 8       | 9    | 10    |
| монитор | сохранить | блок | замена | копия | перенести | тонск | удалить | меню | выход |

Рис. 32: Переход в начало файла

# Работа с редактором Midnight Commander



```
mc [kgashimov@kgashimov]:~/Загрузки
tcp_sk_buf_3_10_to_4_8.c  [----]  0 L: 13+ 0 13/ 83) +(81 /1521b) 0115 0x073  [x][X]
static void
tcp_showusage()
{
    printf("usage : tcp %s", tcp_non_legacy_usage());
}

string
tcp_help()
{
    return "help";
}

int
tcp()
{
    int i;
    struct inet_hashinfo *tab;
    struct sock_common *off = 0;

    tab = &tcp_hashinfo;

    for (i = 0; i < 32; i++) {
        struct hlist_nulls_node *pos;

        pos = tab->listening_hash[i].head.first;

        while (!((unsigned long)pos & 1)) {
            struct sock *sk;
            struct sk_buff *next;
            struct sk_buff_head *head;
            struct hlist_nulls_node *node;

            sk = (struct sock *)((unsigned long)pos - (unsigned long)&off->skc_dontcopy_begin);

            head = (struct sk_buff_head *)&(sk->sk_receive_queue);
            next = (struct sk_buff *)&(sk->sk_receive_queue.next);
        }
    }
}
```

1Помощь 2Сохранить 3Справка 4Замена 5Скопия 6Перенести 7Поиск 8Удалить 9Выход

Рис. 33: Файл с программой

# Работа с редактором Midnight Commander

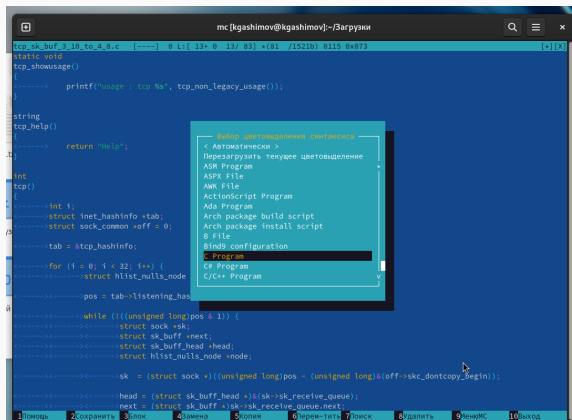


Рис. 34: Цветовыделение синтаксиса

## **Выводы по проделанной работе**

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