

# 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

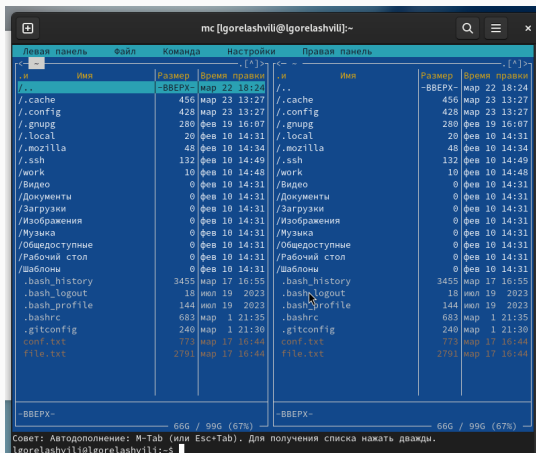


Рис. 1: Запуск mc

# Работа с Midnight Commander

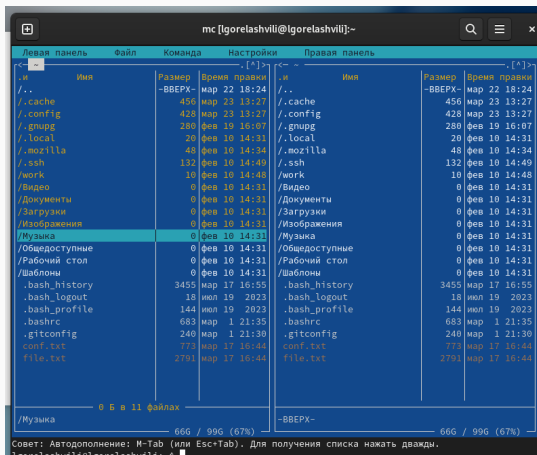


Рис. 2: Выделение

# Работа с Midnight Commander

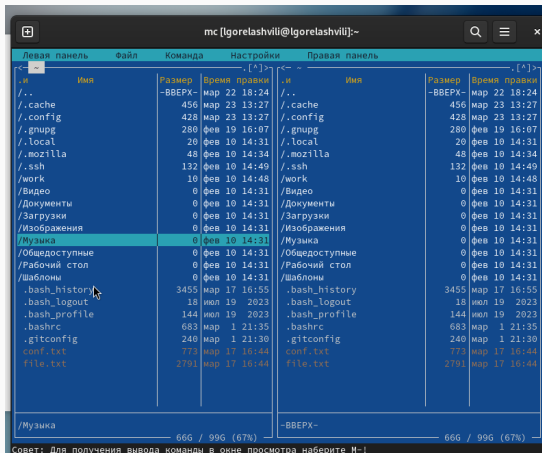


Рис. 3: Отмена



# Работа с Midnight Commander

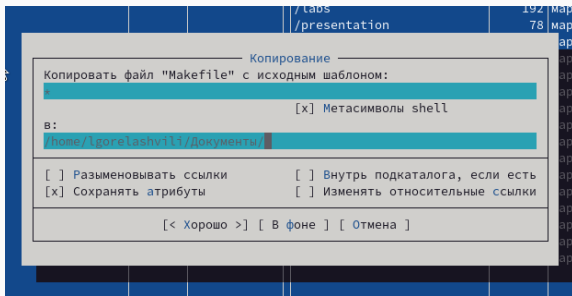


Рис. 4: Копирование

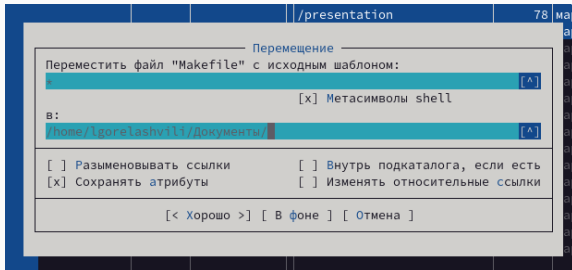


Рис. 5: Перемещение

# Работа с Midnight Commander

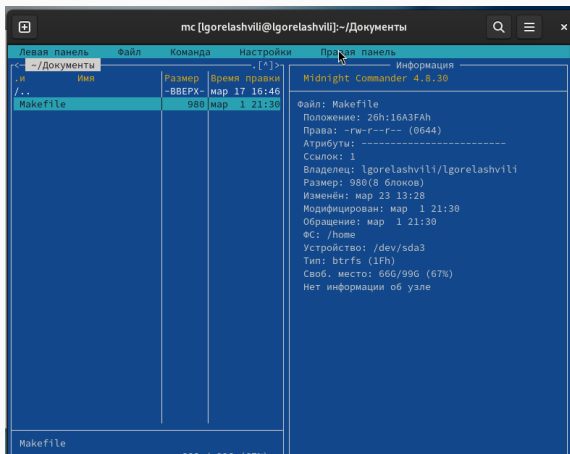


Рис. 6: Информация

# Работа с Midnight Commander

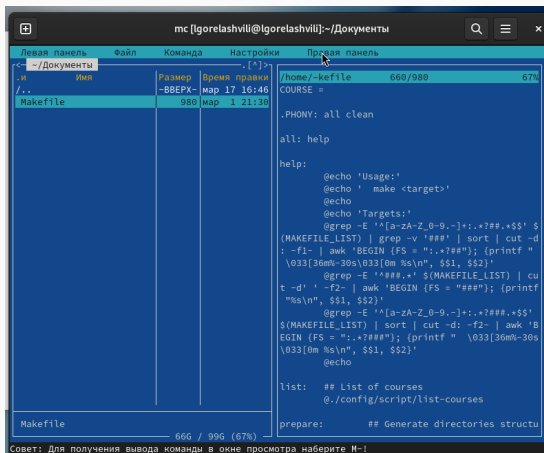


Рис. 7: Быстрый просмотр

# Работа с Midnight Commander

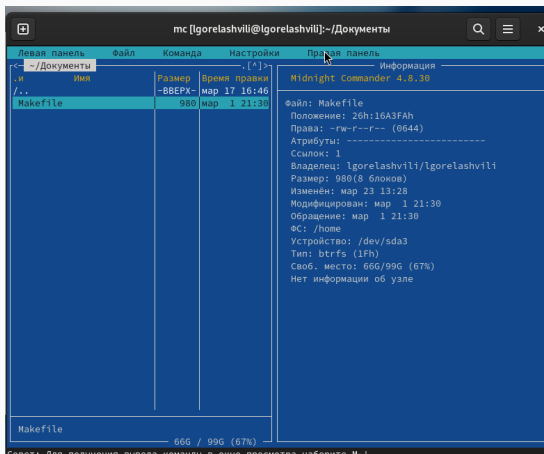


Рис. 8: Информация

# Работа с Midnight Commander

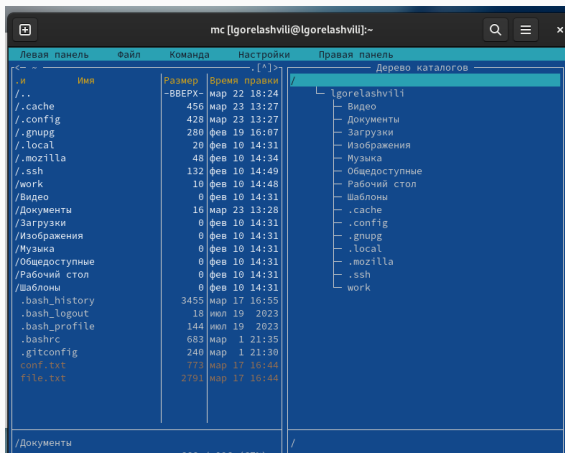
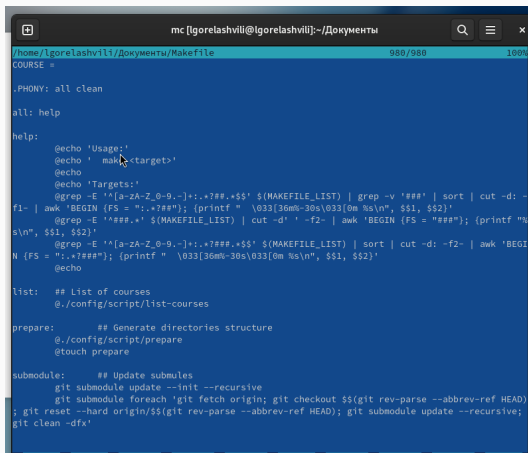


Рис. 9: Дерево каталогов

# Работа с Midnight Commander



The screenshot shows the Midnight Commander (mc) interface. The title bar indicates the current directory is `mc [lgorelashvili@lgorelashvili]: ~/Документы`. The main window displays the contents of a file named `Makefile` located at `/home/lgorelashvili/Документы/Makefile`. The file size is 980 bytes and it is 100% readable. The content of the `Makefile` is as follows:

```
COURSE =

.PHONY: all clean

all: help

help:
    @echo 'Usage:'
    @echo '  make <target>'
    @echo
    @echo 'Targets:'
    @grep -E '^[a-zA-Z_0-9.-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {FS = ".*?##"}; {printf " \033[36m%-30s\033[0m %s\n", $$1, $$2}'
    @grep -E '^[a-zA-Z_0-9.-]+:.*?##.*$$' $(MAKEFILE_LIST) | cut -d: -f2- | awk 'BEGIN {FS = "##"}; {printf "%s\n", $$1, $$2}'
    @grep -E '^[a-zA-Z_0-9.-]+:.*?##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = ".*?##"}; {printf " \033[36m%-30s\033[0m %s\n", $$1, $$2}'
    @echo

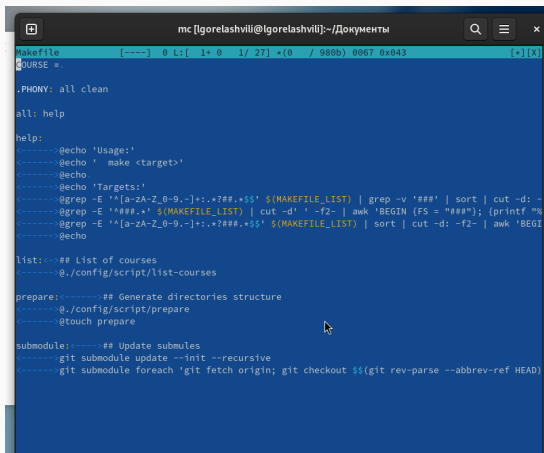
list: ## List of courses
    @./config/script/list-courses

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 a terminal window titled "mc [lgorelashvili@lgorelashvili]: ~/Документы". The window displays the content of a file named "Makefile". The text in the terminal is as follows:

```
Makefile [----] 0 L: [ 1+ 0 1/ 27] *(0 / 980b) 0067 0x043 [*] [X]
# COURSE = .

.PHONY: all clean

all: help

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

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



# Работа с Midnight Commander

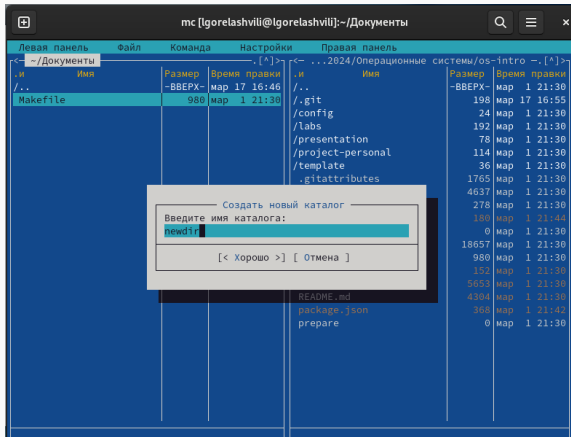


Рис. 12: Создание каталога

# Работа с Midnight Commander

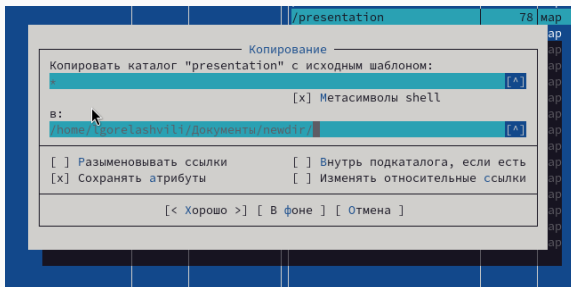


Рис. 13: Копирование в файлов в созданный каталог

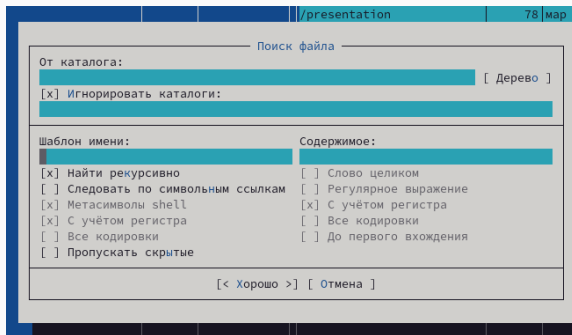


Рис. 14: Поиск файлов

# Работа с Midnight Commander

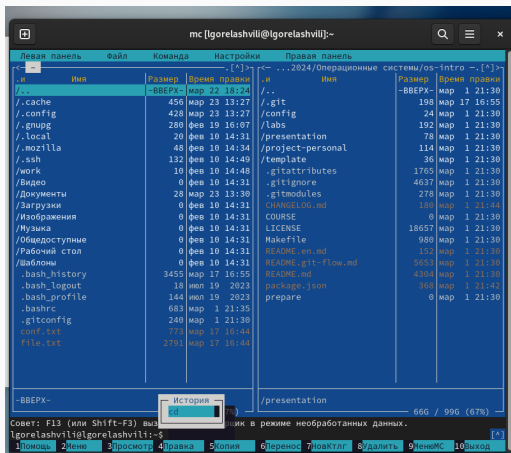


Рис. 15: История команд

# Работа с Midnight Commander

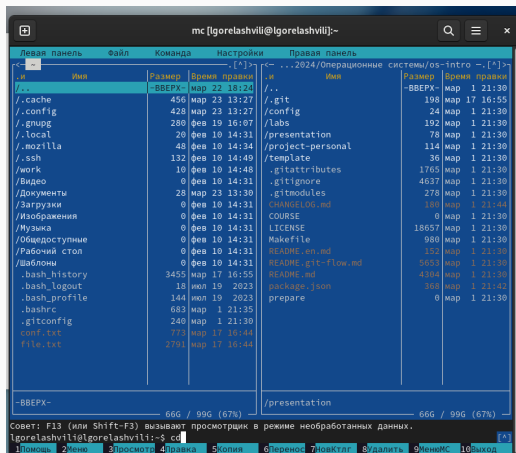


Рис. 16: Переход в домашний каталог

# 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: Удалить 9: НенавС 10: Выход". The menu content includes options like "shell\_patterns=0", "#####", "% 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 %view 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".

```
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
# %f 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 %view 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
```

Рис. 18: Просмотр файла меню

# Работа с Midnight Commander



Рис. 19: Конфигурация



# Работа с Midnight Commander



Рис. 20: Внешний вид

# Работа с Midnight Commander



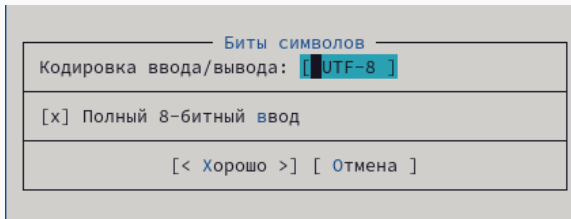
Рис. 21: Настройки панелей



Рис. 22: Подтверждение



**Рис. 23:** Оформление



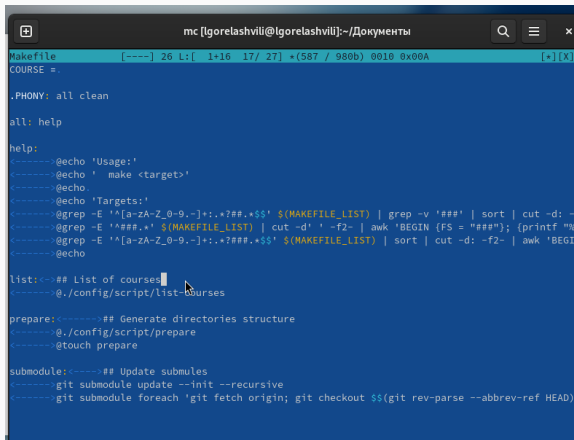
**Рис. 24:** Кодировка символов

# Работа с Midnight Commander



Рис. 25: Распознавание клавиш

# Работа с редактором Midnight Commander



The screenshot shows the Midnight Commander (mc) file editor interface. The title bar indicates the user is 'lgorelashvili@lgorelashvili' in the directory '~/Документы'. The editor is displaying a file named 'Makefile'. The content of the file is as follows:

```
Makefile [----] 26 L: [ 1+16 17/ 27] *(587 / 980b) 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.-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '##' | sort | cut -d: -
<----->@grep -E '^[###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"}; {printf "%
<----->@grep -E '^[a-zA-Z_0-9.-]+:.*?##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGI
<----->@echo

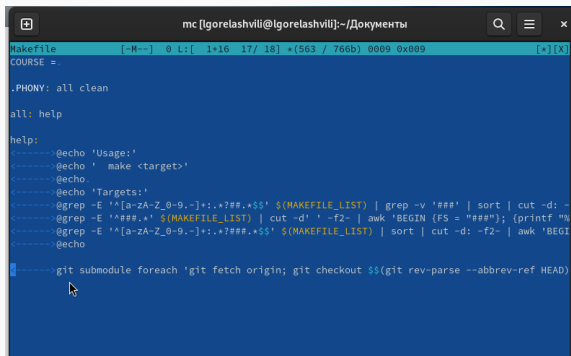
list:<-->## List of courses
<----->@./config/script/list-courses

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)
```

Рис. 26: Файл с текстом

# Работа с редактором Midnight Commander



The screenshot shows the Midnight Commander (mc) interface. The title bar indicates the user is 'lgorelashvili@lgorelashvili' in the directory '~/Документы'. The main window displays a file named 'Makefile' with a size of 563 bytes. The file's content is shown in a blue background with white text. The Makefile includes a 'COURSE =' line, a '.PHONY: all clean' declaration, and a 'help:' target. The 'help:' target contains several shell commands for displaying usage, targets, and a list of submodules. A mouse cursor is visible over the first line of the submodule list command.

```
mc [lgorelashvili@lgorelashvili]:~/Документы
Makefile [-M--] 0 L: [ 1+16 17/ 18] *(563 / 766b) 0009 0x009 [*][X]
COURSE =.

.PHONY: all clean

all: help

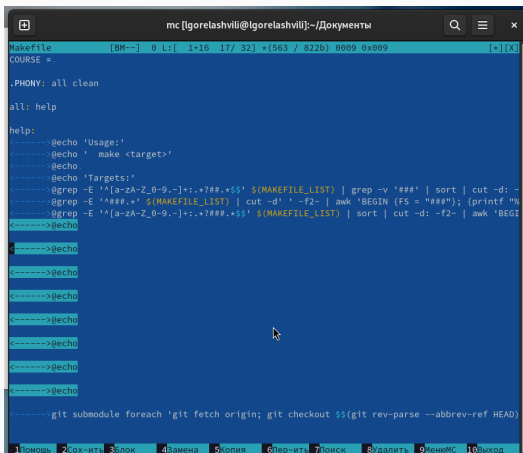
help:
<----->@echo 'Usage:'
<----->@echo ' make <target>'
<----->@echo
<----->@echo 'Targets:'
<----->@grep -E '^[a-zA-Z_0-9.-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -
<----->@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"}; {printf "%
<----->@grep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

<----->git submodule foreach 'git fetch origin; git checkout $(git rev-parse --abbrev-ref HEAD)
```

Рис. 27: Файл с текстом



# Работа с редактором Midnight Commander



```
mc [lgorelashvili@lgorelashvili]: ~/Документы

Makefile [BM--] 0 Li: 1+16 17/ 32] *(563 / 822b) 0000 0x009 [.*][X]
COURSE =

.PHONY: all clean

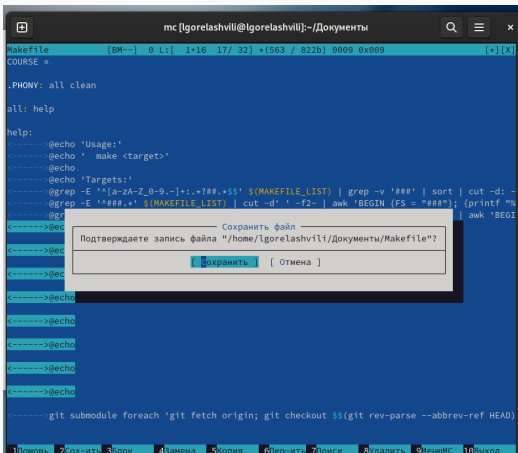
all: help

help:
<----->@echo 'Usage:'
<----->@echo ' make <target>'
<----->@echo
<----->@echo 'Targets:'
<----->@grep -E '[a-zA-Z_0-9-]+\.[?@#].*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -
<----->@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"}; {printf "%
<----->@grep -E '[a-zA-Z_0-9-]+\.[?@#].*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGI
<----->@echo
<----->@echo
<----->@echo
<----->@echo
<----->@echo
<----->@echo
<----->@echo
<----->@echo
<----->git submodule foreach 'git fetch origin; git checkout $$ (git rev-parse --abbrev-ref HEAD)

1Помощь 2Скопировать 3Блок 4Замена 5Копия 6Пер-ить 7Поиск 8Удалить 9МенюМС 10Выход
```

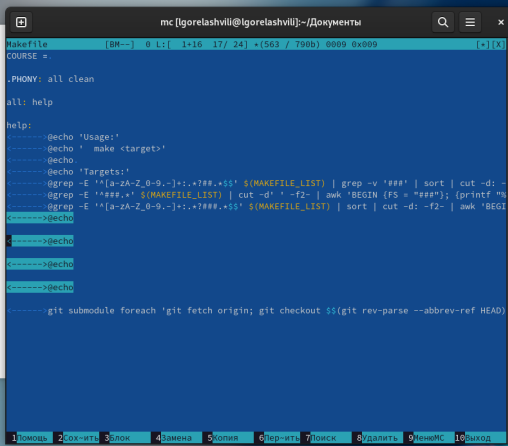
Рис. 28: Копирование фрагмента

## Работа с редактором Midnight Commander



**Рис. 29: Сохранение**

# Работа с редактором Midnight Commander

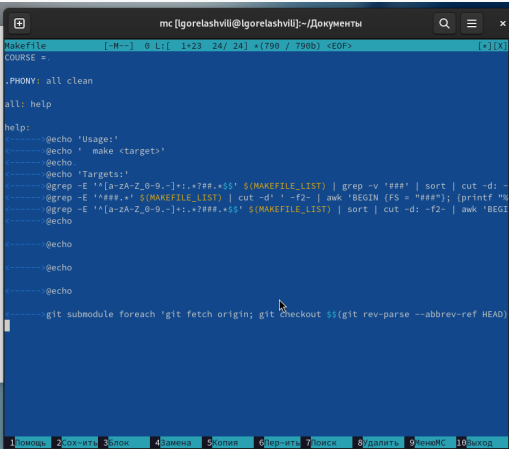


The screenshot shows the Midnight Commander (mc) interface. The title bar indicates the user is 'mc [lgorelashvili@lgorelashvili]:~/Документы'. The main window displays a file named 'Makefile' with a status bar showing '0 L: [ 1+16 17/ 24] \*(563 / 790b) 0009 0x009'. The file's contents are shown in a blue background with white text. The file starts with 'COURSE =.', followed by a comment '.PHONY: all clean'. Then, there's a section for 'all: help' and a 'help:' target. The 'help:' target contains several 'echo' commands and a complex 'grep' command that filters targets from the 'MAKEFILE\_LIST' variable. The bottom status bar shows a menu with 10 items: 1.Помощь, 2.Скопировать, 3.Блок, 4.Замена, 5.Копия, 6.Переместить, 7.Поиск, 8.Удалить, 9.МенюМС, 10.Выход.

```
mc [lgorelashvili@lgorelashvili]:~/Документы
Makefile [0M--] 0 L: [ 1+16 17/ 24] *(563 / 790b) 0009 0x009 [*][X]
COURSE =.
.PHONY: all clean
all: help
help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '^[a-zA-Z_0-9.-]+:.*?###.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"}; {printf "%s
-----@grep -E '^[a-zA-Z_0-9.-]+:.*?###.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGI
<----->@echo
<----->@echo
<----->@echo
<----->@echo
-----git submodule foreach 'git fetch origin; git checkout $$ (git rev-parse --abbrev-ref HEAD)
```

Рис. 30: Отмена

# Работа с редактором Midnight Commander



```
mc [lgorelashvili@lgorelashvili]:~/Документы
Makefile  [-M--]  0 L: [ 1+23  24 / 24 ] * (790 / 790b) <EOF>  [*][X]
COURSE =

.PHONY: all clean

all: help

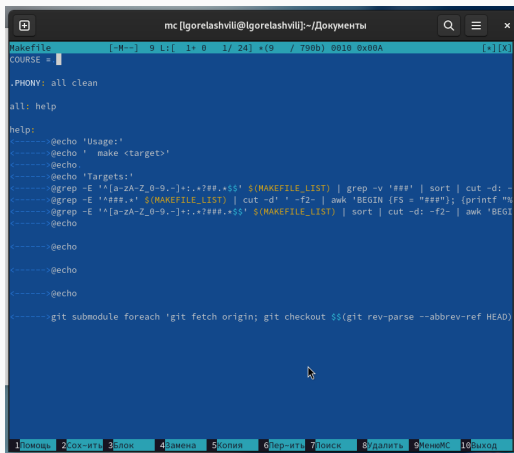
help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '[a-zA-Z_0-9.-]+.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -
-----@grep -E '^###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"}; {printf "%
-----@grep -E '[a-zA-Z_0-9.-]+.*?###.*$$'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

-----git submodule foreach 'git fetch origin; git checkout $$ (git rev-parse --abbrev-ref HEAD)
```

1 Помощь 2 Сох-ить 3 Слоск 4 Замена 5 Копия 6 Пер-ить 7 Поиск 8 Удалить 9 МенюМС 10 Выход

Рис. 31: Переход в конец файла

# Работа с редактором Midnight Commander



```
mc [lgorelashvili@lgorelashvili]:~/Документы
Makefile  [-M--]  9 L: [ 1+ 0  1/ 24] *(9  / 790b) 0010 0x00A  [*] [X]
COURSE =

.PHONY: all clean

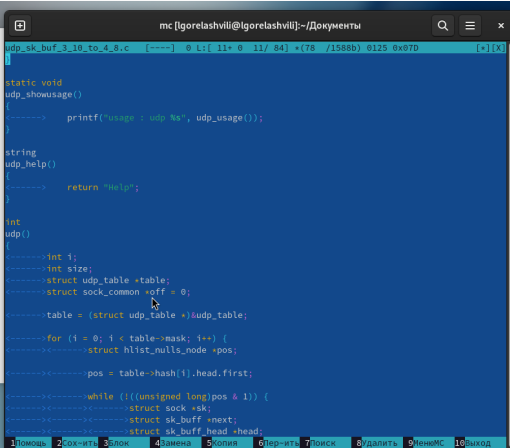
all: help

help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '^[a-zA-Z_0-9.-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "##";} {printf "%
-----@grep -E '^[a-zA-Z_0-9.-]+:.*?##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGI
-----@echo
-----@echo
-----@echo
-----@echo
-----git submodule foreach 'git fetch origin; git checkout $$ (git rev-parse --abbrev-ref HEAD)
```

1Помощь 2Сох-ить 3Блок 4Замена 5Копия 6Пер-ить 7Поиск 8Удалить 9МенюМС 10Выход

Рис. 32: Переход в начало файла

# Работа с редактором Midnight Commander



```
mc [lgorelashvili@lgorelashvili:~/Документы]
udp_sk_buf_3_10_to_4_8.c  [-----]  0 L: [ 11+ 0  11/ 84]  +(78  /1588b)  0125  0x07D  [+][X]

static void
udp_showusage()
{
    ----->  printf("usage : udp Ns", udp_usage());
}

string
udp_help()
{
    ----->  return "Help";
}

int
udp()
{
    ----->int i;
    ----->int size;
    ----->struct udp_table *table;
    ----->struct sock_common *off = 0;
    ----->table = (struct udp_table *)&udp_table;
    ----->for (i = 0; i < table->mask; i++) {
    -----><----->struct hlist_nulls_node *pos;
    -----><----->pos = table->hash[i].head.first;
    -----><----->while (!((unsigned long)pos & 1)) {
    -----><-----><----->struct sock *sk;
    -----><-----><----->struct sk_buff *next;
    -----><-----><----->struct sk_buff_head *head;
```

1Помощь 2Скопировать 3Блок 4Замена 5Копия 6Переместить 7Поиск 8Удалить 9МенюМС 10Выход

Рис. 33: Файл с программой

# Работа с редактором Midnight Commander

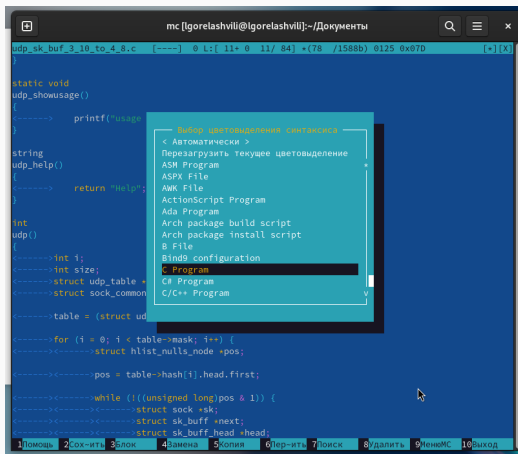


Рис. 34: Цветовыделение синтаксиса

## **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.