

# 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

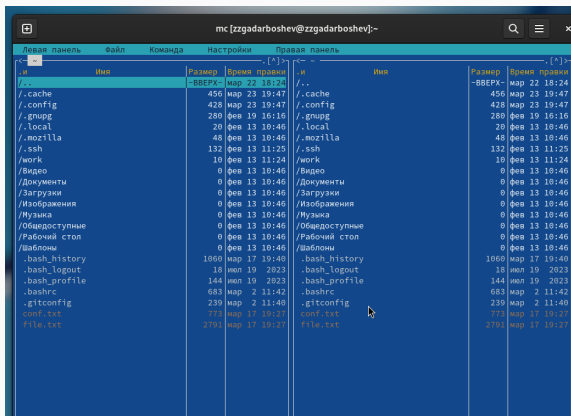


Рис. 1: Запуск mc

# Работа с Midnight Commander

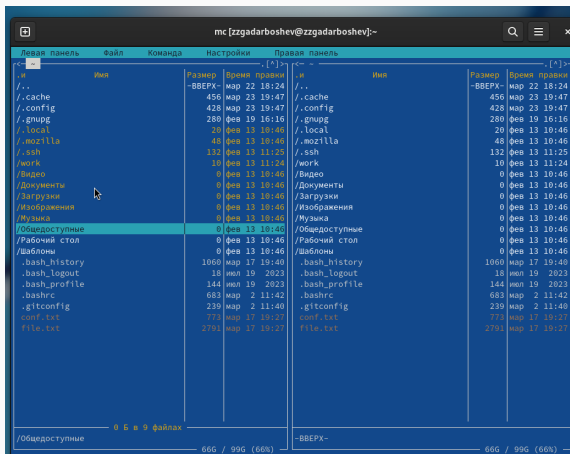


Рис. 2: Выделение

# Работа с Midnight Commander

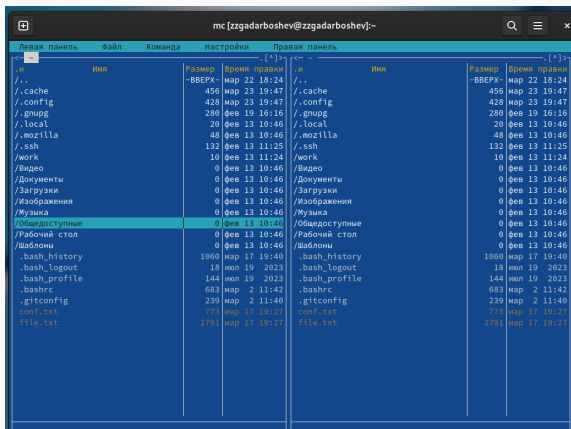


Рис. 3: Отмена



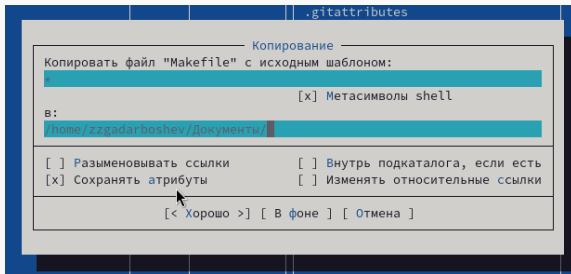


Рис. 4: Копирование

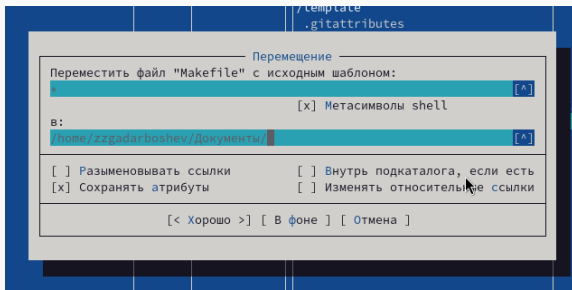


Рис. 5: Перемещение

# Работа с Midnight Commander

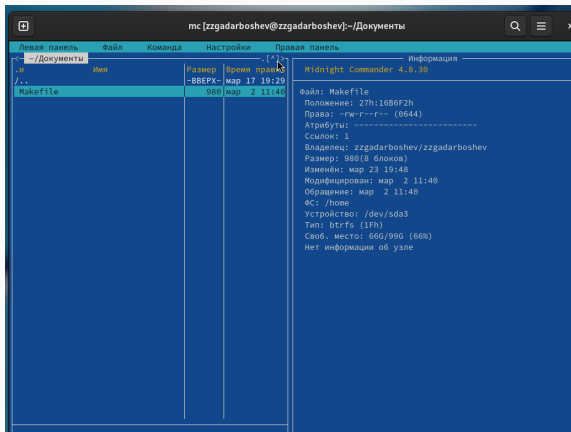


Рис. 6: Информация

# Работа с Midnight Commander

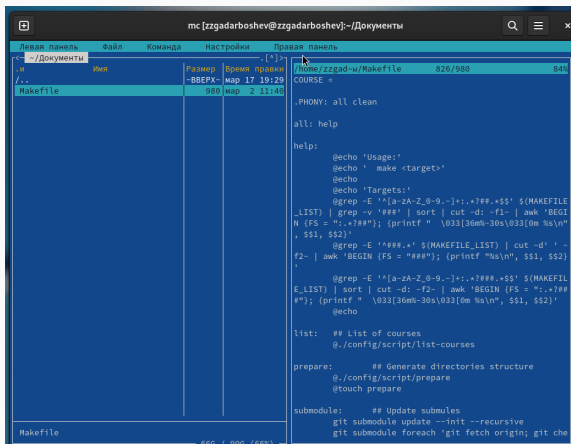


Рис. 7: Быстрый просмотр

# Работа с Midnight Commander

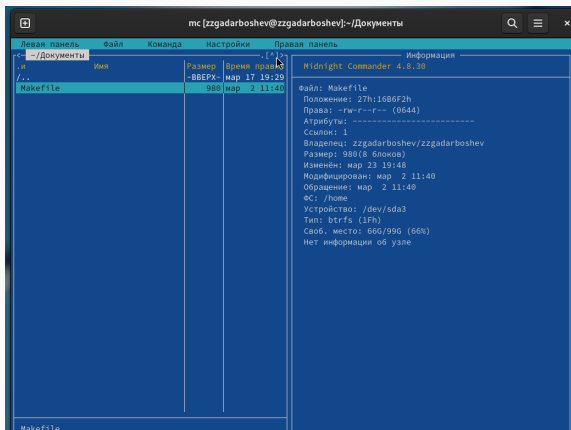


Рис. 8: Информация

# Работа с Midnight Commander

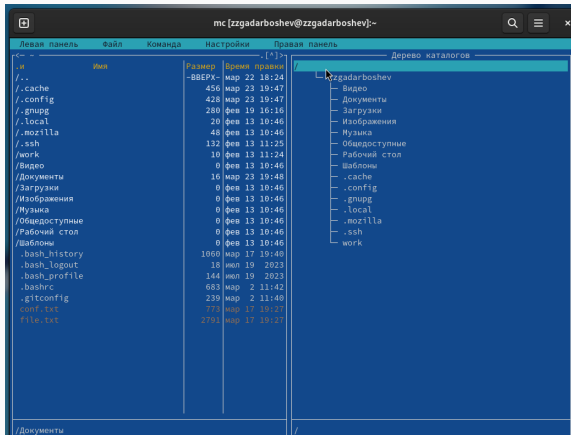
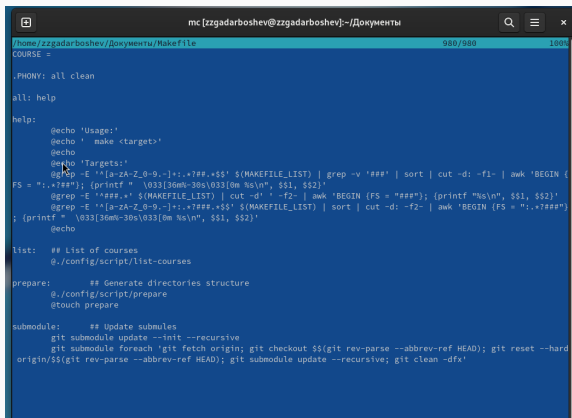


Рис. 9: Дерево каталогов

# Работа с Midnight Commander



The screenshot shows a terminal window titled "mc [zzgadarboshev@zzgadarboshev]-~/Документы". The terminal displays the contents of a Makefile located at "/home/zzgadarboshev/Документы/Makefile". The file content includes a "COURSE =" line, a ".PHONY: all clean" declaration, a "help:" target with a complex shell command using @echo, @grep, @printf, @sort, @cut, and @awk. It also includes a "list:" target to list courses, a "prepare:" target to generate directory structure, and a "submodule:" target to update submodules.

```
mc [zzgadarboshev@zzgadarboshev]-~/Документы
/home/zzgadarboshev/Документы/Makefile 980/980 100%
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, $$2)'
    @grep -E '###+.' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"; (printf "%s\n", $$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

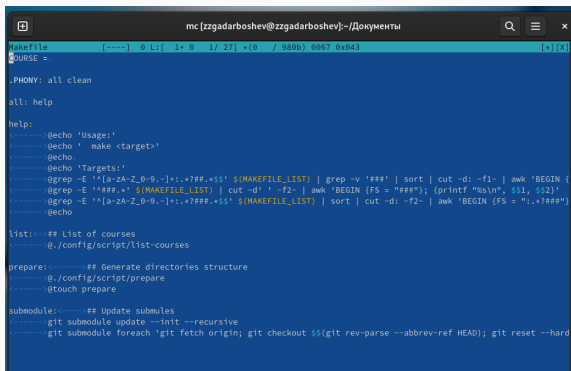
list:  ## List of courses
    @./config/script/list-courses

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



```
mc [zzgadarboshev@zzgadarboshev]~/Документы
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.-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {
#####@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"; {printf "%s\n", $$1, $$2}}'
#####@grep -E '[a-zA-Z_0-9.-]+:.*?##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = ".*?##"}'
#####@echo

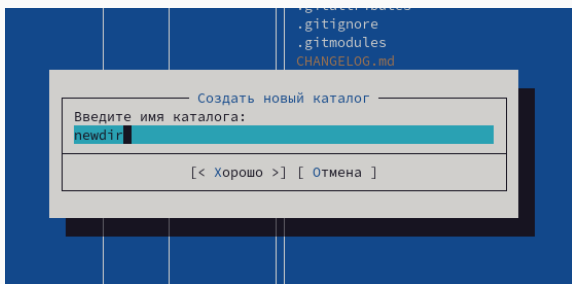
list:##### List of courses
#####@./config/script/list-courses

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
```

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





**Рис. 12:** Создание каталога

# Работа с Midnight Commander

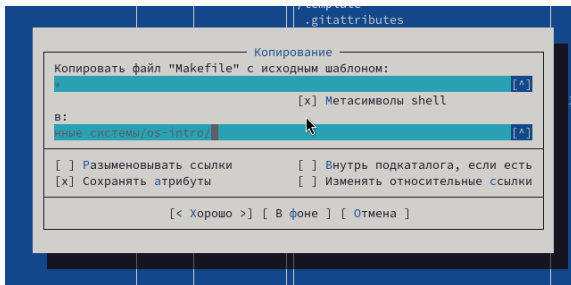


Рис. 13: Копирование в файлов в созданный каталог

# Работа с Midnight Commander

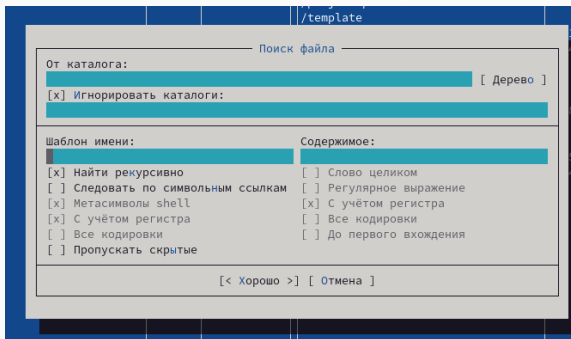


Рис. 14: Поиск файлов

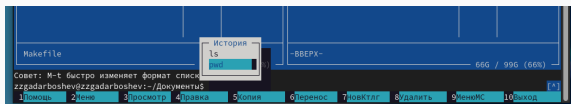


Рис. 15: История команд

# Работа с Midnight Commander

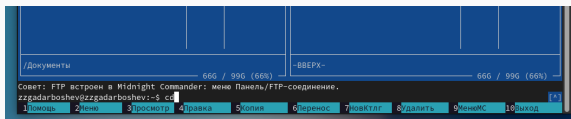


Рис. 16: Переход в домашний каталог

# 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

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", "#####", "% 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)", "vview Runs the commands and pipes standard output to the view command", "If vview is immediately followed by '!', 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", 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
# %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)
# vview Runs the commands and pipes standard output to the view command
# If vview is immediately followed by '!', 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
0 Do something on the current file
CMD=: (Enter command)
SCMD %f

+ t t
0 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



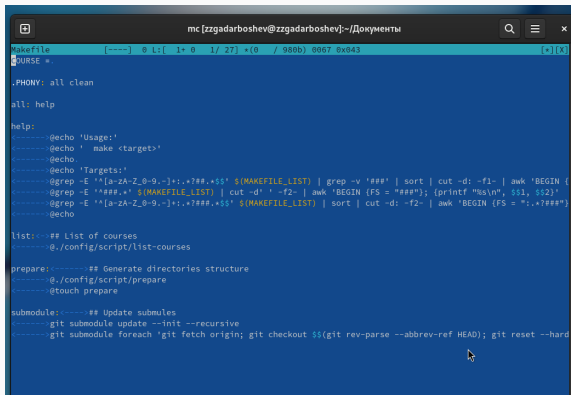
**Рис. 24:** Кодировка символов

# 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 'mc [zzgadarboshev@zzgadarboshev] ~ /Документы'. The editor is displaying a file named 'Makefile' with a status bar at the top showing 'L: [ 1+ 0 1/ 27] \* (0 / 980b) 0067 0x043'. The file content is a Makefile with the following text:

```
Makefile
SOURCE *.

.PHONY: all clean

all: help

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

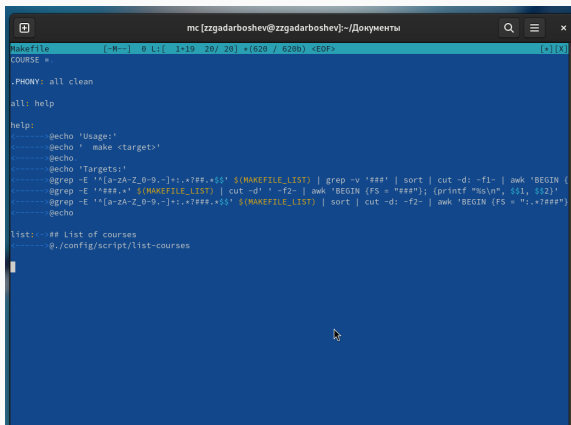
list:## List of courses
-----@./config/script/list-courses

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
```

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 'mc [zzgadarboshev@zzgadarboshev]: ~/Документы'. The status bar at the top shows file information: 'Makefile [-M-] 0 L: [ 1\*19 20/ 20] \*(620 / 620b) <EOF>'. The main editing area contains the following text:

```
Makefile
COURSE *.

.PHONY: all clean

all: help

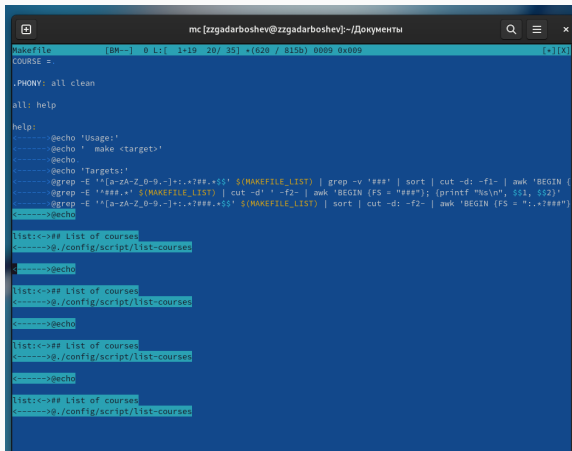
help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '^([a-zA-Z_0-9.-]+).*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {
-----@grep -E '^###.*' $(MAKEFILE_LIST) | cut -d: -f2- | awk 'BEGIN {FS = "###"; (printf "%s\n", $1,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

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

Рис. 27: Файл с текстом



# Работа с редактором Midnight Commander



```
mc [zzgadarboshev@zzgadarboshev:~/Документы]
Makefile [BM--] 0 L: 1+19 20/ 35 *(620 / 815b) 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.-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {
----->@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN (FS = "###"); (printf "%s\n", $$1, $$2)'
----->@grep -E '^[a-zA-Z_0-9.-]+:.*?##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN (FS = ".*?##")
----->@echo

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

----->@echo

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

----->@echo

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

----->@echo

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

Рис. 28: Копирование фрагмента

# Работа с редактором Midnight Commander

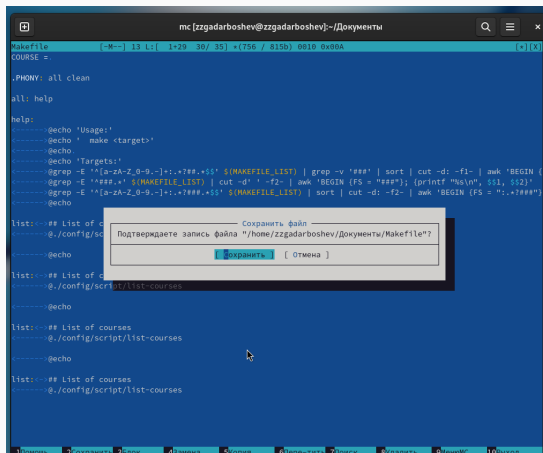
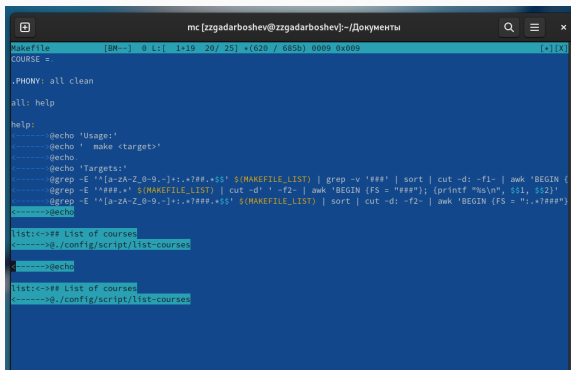


Рис. 29: Сохранение

# Работа с редактором Midnight Commander



The screenshot shows a terminal window titled "mc [zzgadarboshev@zzgadarboshev]:~/Документы". The terminal displays the contents of a file named "Makefile". The file starts with "COURSE =", followed by ".PHONY: all clean", "all: help", and a "help:" target. The "help:" target contains several echo commands and a complex shell command using grep, sort, cut, and awk to process the MAKEFILE\_LIST. The terminal shows the user entering "list:" and the output of the command, which lists the courses. The user then enters "list:" again, and the output is repeated.

```
Makefile [BM--] 0 L: [ 1+19 20/ 25] +(620 / 685b) 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-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {
+-----@grep -E '^###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"; {printf "%s\n", $$1, $$2}}'
+-----@grep -E '[a-zA-Z_0-9-]+:.*?##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = ":",.*?##}'
+----->@echo

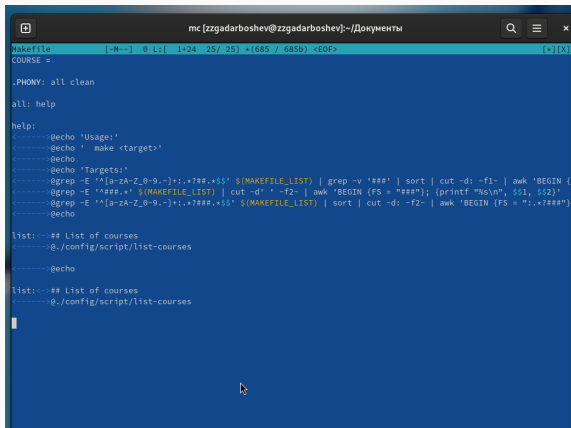
list:<->## List of courses
+----->@./config/script/list-courses

+----->@echo

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

Рис. 30: Отмена

# Работа с редактором Midnight Commander



The screenshot shows a terminal window of the Midnight Commander file manager. The title bar indicates the user is 'mc [zzgadarboshev@zzgadarboshev] ~ / Документы'. The status bar at the top shows 'Makefile' and file statistics. The main area displays the contents of a Makefile, including a 'help' target with several echo and grep commands. The user has navigated to the end of the file, as indicated by the cursor position at the bottom of the visible text.

```
mc [zzgadarboshev@zzgadarboshev] ~ / Документы
Makefile  [-M--]  @ L:  1+24  25/ 25  *(685 / 685b) <EOF>  [*][X]
COURSE =

.PHONY: all clean

all: help

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

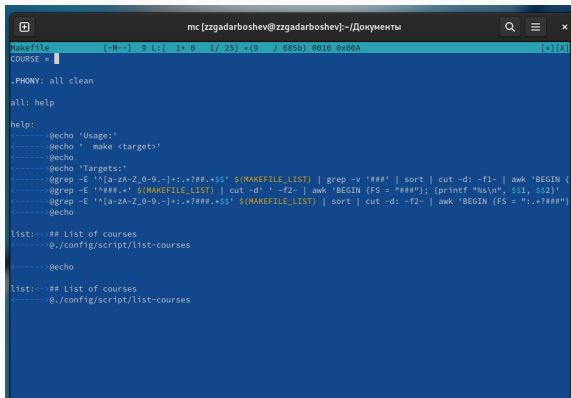
list:## List of courses
-----@./config/script/list-courses

-----@echo

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

Рис. 31: Переход в конец файла

# Работа с редактором Midnight Commander



```
mc [zzgadarboshev@zzgadarboshev:~/Документы
Makefile  [-M~]  9  L: [ 1= 0  1/ 25] + (9  / 685b) 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-~]+.?###+$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {
-----@grep -E '^###+' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"; (printf "%s\n", $$1, $$2)'}
-----@grep -E '^[a-zA-Z_0-9-~]+.?###+$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = "?:.?.?###"}
-----@echo

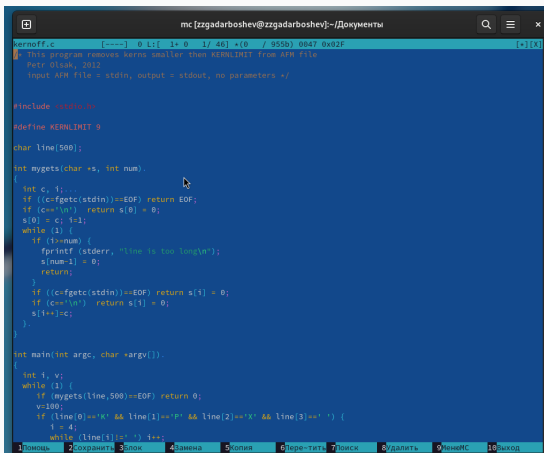
list:## List of courses
-----@./config/script/list-courses

-----@echo

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

Рис. 32: Переход в начало файла

# Работа с редактором Midnight Commander



```
mc [zzgadarboshev@zzgadarboshev]: ~/Документы
kernoff.c [-----] 0 L: 1+ 0 1/ 46] * (0 / 955b) 0047 0x02F [.] [X]
/* This program removes kernels smaller than KERNLIMIT from AFM file
 * Petr Qlusk, 2012
 * input AFM file - stdin, output - stdout, no parameters */

#include <stdio.h>

#define KERNLIMIT 9

char line[500];

int mygets(char *s, int num)
{
    int c, i;
    if ((c=fgetc(stdin))!=EOF) return EOF;
    if (c=='\n') return s[0] = 0;
    s[0] = c; i=1;
    while (1) {
        if (i>num) {
            fprintf(stderr, "line is too long\n");
            s[num-1] = 0;
            return;
        }
        if ((c=fgetc(stdin))!=EOF) return s[i] = 0;
        if (c=='\n') return s[i] = 0;
        s[i++] = c;
    }
}

int main(int argc, char *argv[])
{
    int i, v;
    while (1) {
        if (mygets(line, 500) != EOF) return 0;
        v=100;
        if (line[0]!='K' && line[1]!='P' && line[2]!='X' && line[3]!=' ') {
            i = 4;
            while (line[i]!='\n') i++;
        }
    }
}
```

Рис. 33: Файл с программой

# Работа с редактором Midnight Commander

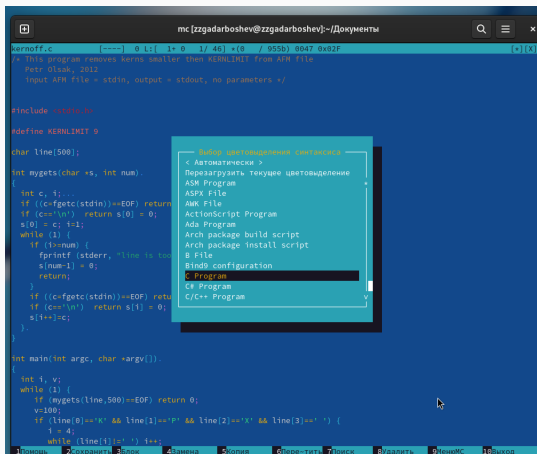


Рис. 34: Цветовыделение синтаксиса

## **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.