

Командная оболочка Midnight Commander

Марьям Ел Вакил¹

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¹Российский Университет Дружбы Народов

Цели и задачи работы

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

Работа с Midnight Commander

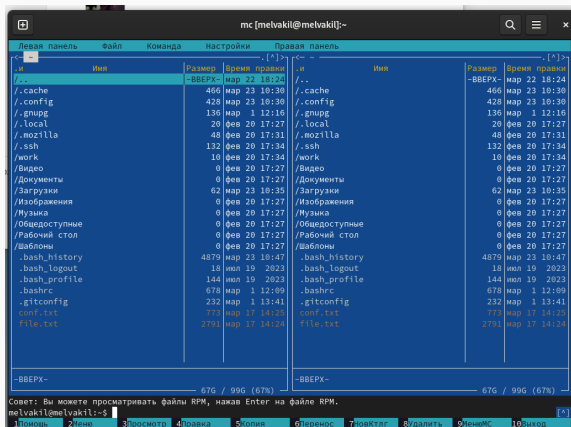


Рис. 1: Запуск mc

Работа с Midnight Commander

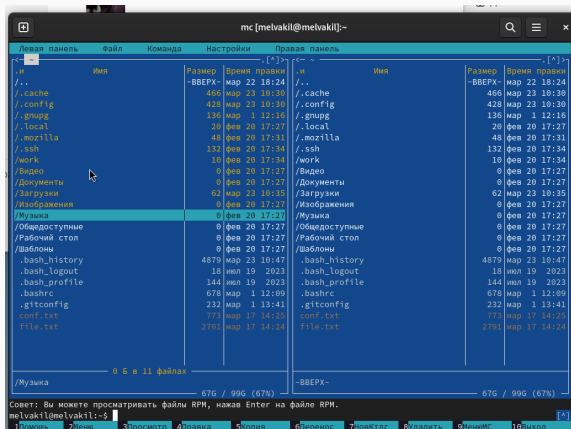


Рис. 2: Выделение

Работа с Midnight Commander

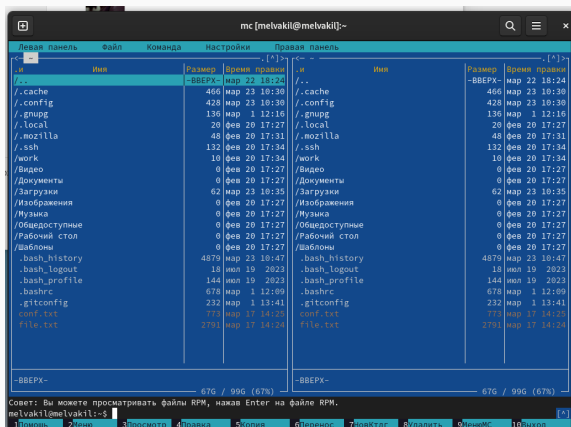


Рис. 3: Отмена

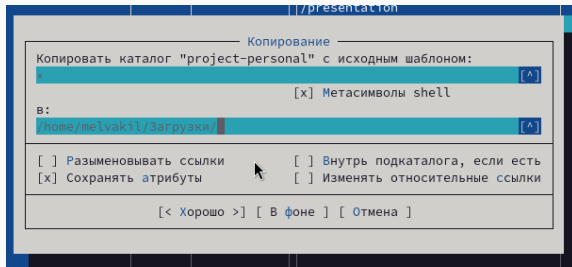


Рис. 4: Копирование

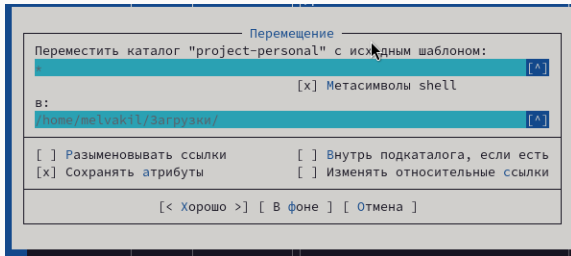


Рис. 5: Перемещение

Работа с Midnight Commander

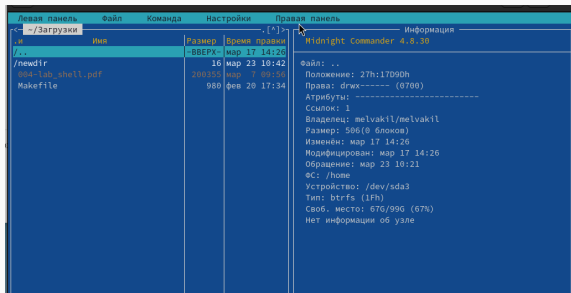


Рис. 6: Информация

Работа с Midnight Commander

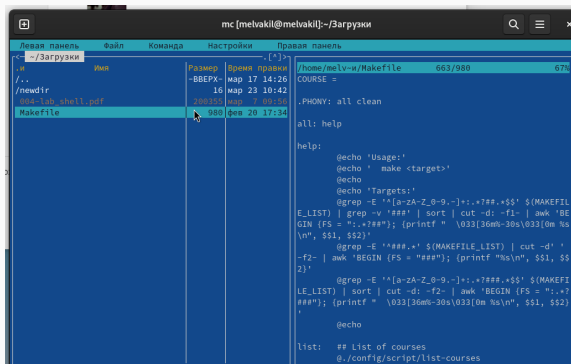


Рис. 7: Быстрый просмотр

Работа с Midnight Commander

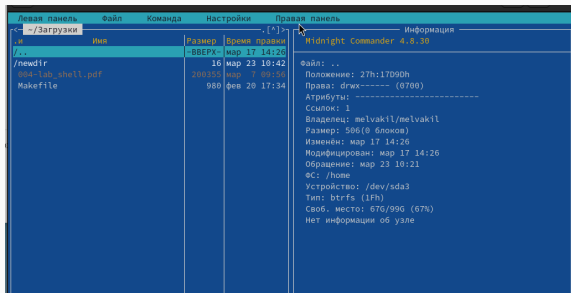


Рис. 8: Информация

Работа с Midnight Commander

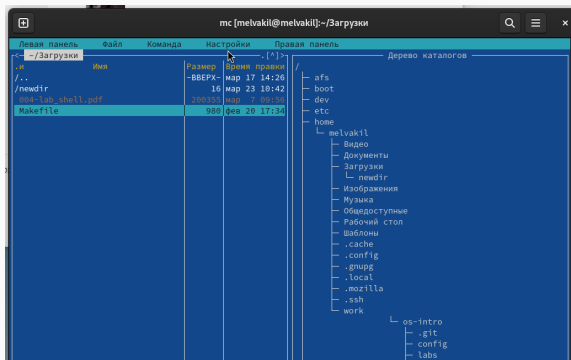
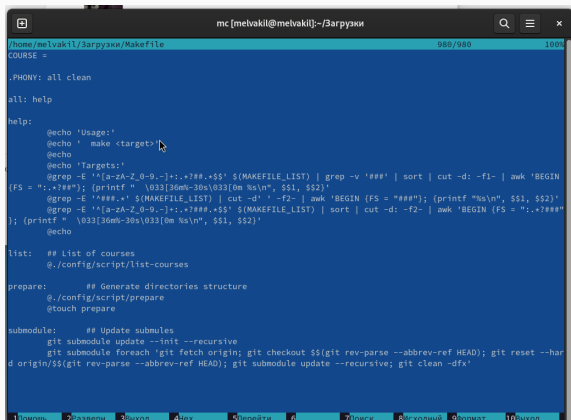


Рис. 9: Дерево каталогов

Работа с Midnight Commander



The screenshot shows the Midnight Commander (mc) interface. The title bar indicates the user is 'mc [melvakil@melvakil]: ~/Загрузки'. The top status bar shows the current directory as '/home/melvakil/Загрузки/Makefile' with a file size of '980/980' and a progress indicator at '100%'. The main window displays the contents of the 'Makefile' file. The file content includes a 'COURSE =' assignment, a '.PHONY: all clean' declaration, and several targets: 'all: help', 'help:' (which echoes usage and targets), 'list:' (listing courses from a script), 'prepare:' (generating directory structure), and 'submodule:' (updating submodules). The bottom status bar contains a menu with 10 items: 1 Помощь, 2 Обзор, 3 Выход, 4 Нех, 5 Перейти, 6, 7 Поиск, 8 Исходный, 9 Формат, 10 Выход.

```
mc [melvakil@melvakil]: ~/Загрузки

/home/melvakil/Загрузки/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

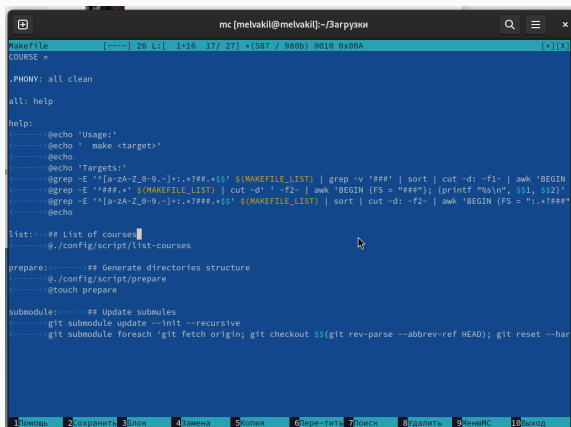
list: ## List of courses
    @./config/script/list-courses

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 $(git rev-parse --abbrev-ref HEAD); git reset --har
d origin/$(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 [melvakil@melvakil] ~/Заргузки". The window displays the content of a file named "Makefile". The text in the terminal 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-]+\.[7#].*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN (FS = "###"); {printf "%s\n", $$1, $$2}'
-----@grep -E '[a-zA-Z_0-9-]+\.[7#].*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN (FS = ":[7#]###"
-----@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
```

At the bottom of the terminal window, there is a navigation bar with 10 numbered buttons: 1Помощь, 2Сохранить, 3Блок, 4Замена, 5Юлия, 6Перетянуть, 7Поиск, 8Удалить, 9МенюМС, 10Выход.

Рис. 11: Отредактируем содержимое текстового файла без сохранения результатов

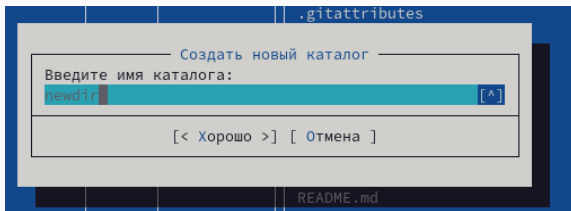


Рис. 12: Создание каталога

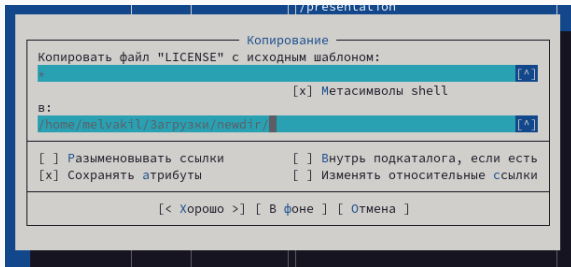


Рис. 13: Копирование в файлов в созданный каталог

Работа с Midnight Commander

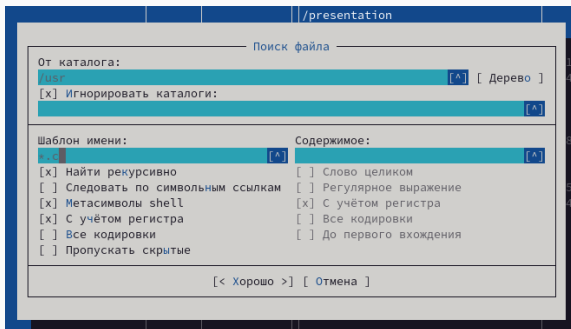


Рис. 14: Поиск файлов

Работа с Midnight Commander

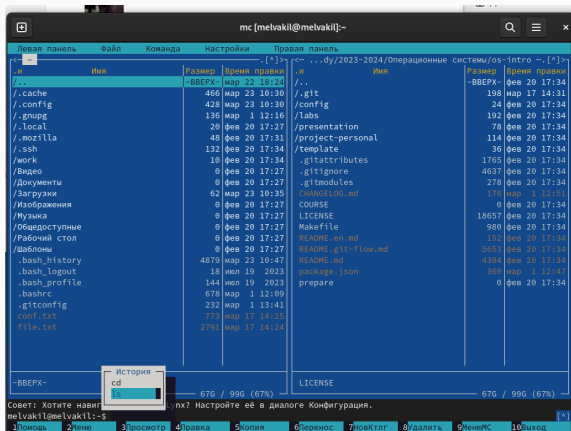


Рис. 15: История команд

Работа с Midnight Commander

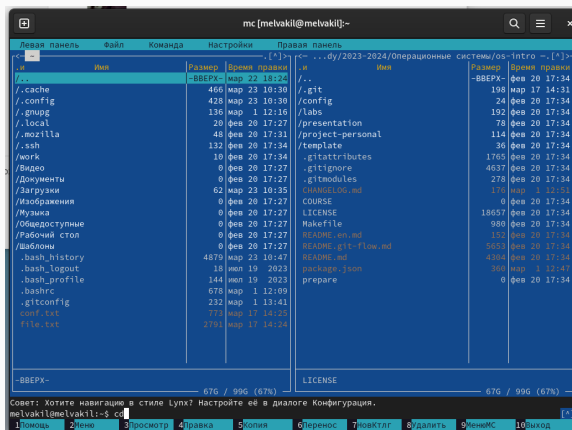


Рис. 16: Переход в домашний каталог

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: Переименовать 7: Поиск 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)", "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", "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 1 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: Переименовать, 7: Поиск, 8: Удалить, 9: Ненавс, 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
# %f ditto
# %f 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 1 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

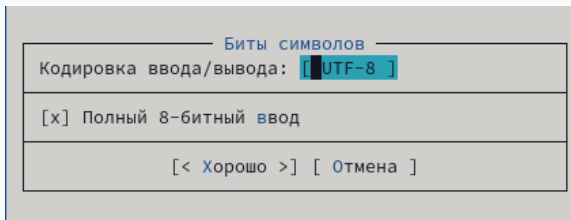


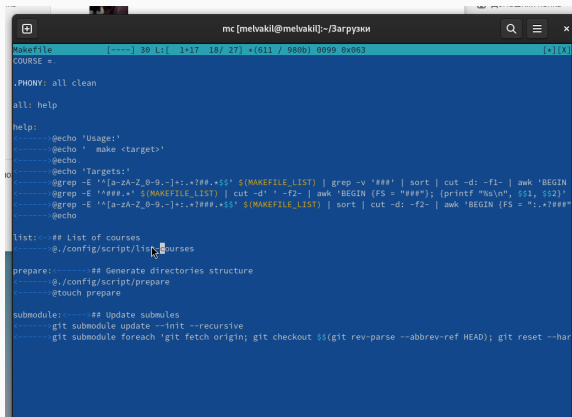
Рис. 24: Кодировка символов

Работа с Midnight Commander



Рис. 25: Распознавание клавиш

Работа с редактором Midnight Commander



The image shows a screenshot of the Midnight Commander (MC) terminal window. The title bar indicates the user is 'mc [melvakil@melvakil]:~/Загрузки'. The main content is a Makefile with the following text:

```
Makefile
[----] 30 L: [ 1+17 18/ 27] * (611 / 980b) 0099 0x063 [x] [X]

COURSE =

.PHONY: all clean

all: help

help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '[a-zA-Z_0-9-]+\.[?##.+\$${ $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN
-----@grep -E '[a-zA-Z_0-9-]+\.[?##.+\$${ $(MAKEFILE_LIST) | grep -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

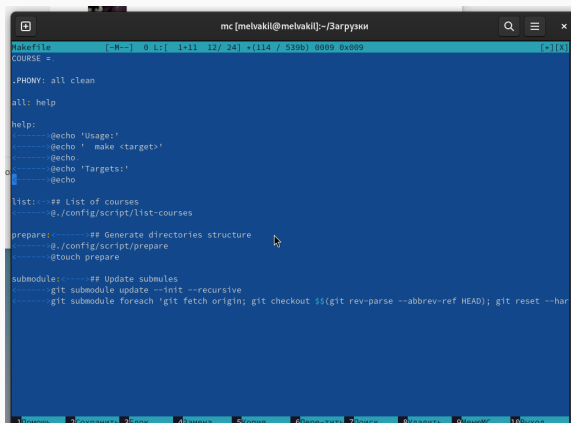
list:--## List of courses
-----@./config/script/list_courses

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 --har
```

Рис. 26: Файл с текстом

Работа с редактором Midnight Commander



The screenshot shows the Midnight Commander (mc) file editor interface. The title bar indicates the user is 'melvaki1' at 'melvaki1' in the directory '~/Загрузки'. The editor is displaying a file named 'Makefile'. The text in the editor is as follows:

```
Makefile
COURSE = .

.PHONY: all clean

all: help

help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@echo

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

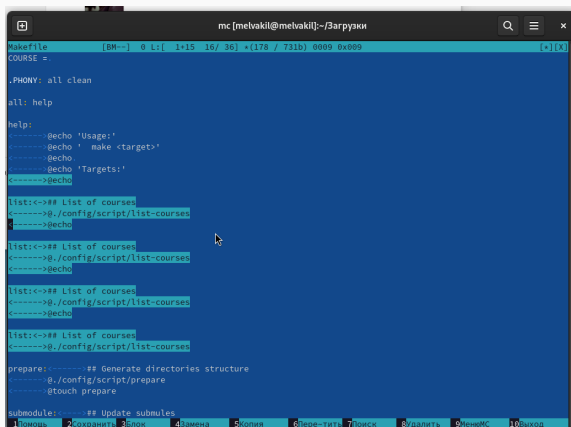
prepare:-----## Generate directories structure
-----@./config/script/prepare
-----@touch prepare

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

The bottom status bar of the editor shows various icons and labels: Помощь, Сохранить, Блок, Замена, Скопир, Пере-гит, Поиск, Добавить, Меню, and Выход.

Рис. 27: Файл с текстом

Работа с редактором Midnight Commander



```
mc [melvakil@melvakil]:~/Загрузки
Makefile [BM--] 0 L: 1+15 16/ 36) *(178 / 731b) 0009 0x009 [*][X]
COURSE =
.PHONY: all clean
all: help
help:
<-----@echo 'Usage:'
<-----@echo ' make <target>'
<-----@echo
<-----@echo 'Targets:'
<-----@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
<-----@echo
prepare:<-----## Generate directories structure
<-----@./config/script/prepare
<-----@touch prepare
submodule:<-----## Update submodules
1 Помощь 2 Сохранить 3 Блок 4 Замена 5 Копия 6 Пере-тить 7 Поиск 8 Удалить 9 МенюМС 10 Выход
```

Рис. 28: Копирование фрагмента

Работа с редактором Midnight Commander

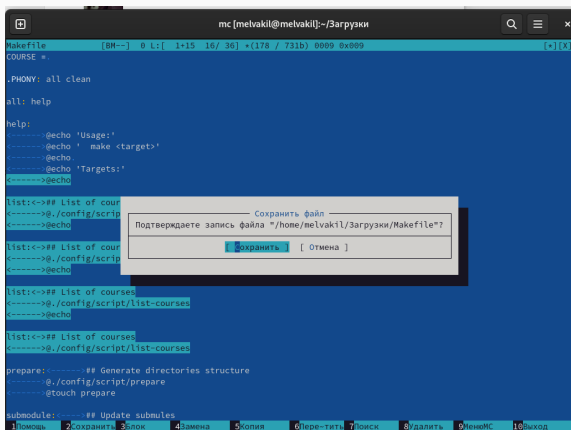


Рис. 29: Сохранение

Работа с редактором Midnight Commander

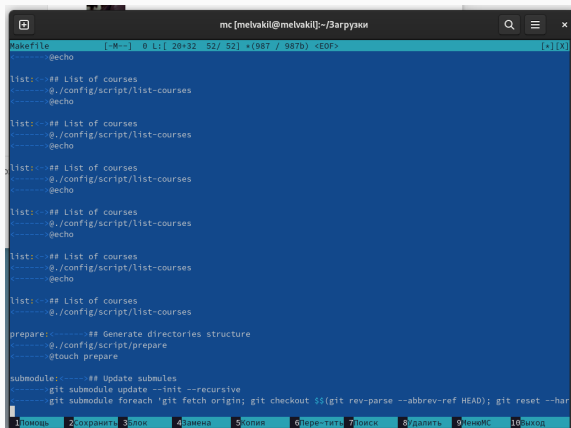


Рис. 31: Переход в конец файла

Работа с редактором Midnight Commander

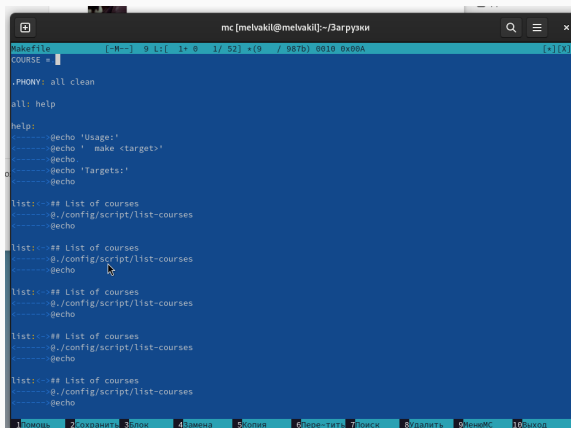
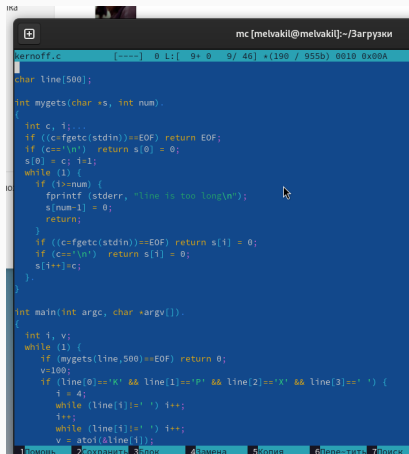


Рис. 32: Переход в начало файла

Работа с редактором Midnight Commander



```
mc [melvakil@melvakil]:~/Загрузки
kernoff.c [-----] 0 L: [ 9+ 0 9/ 46] *(190 / 955b) 0010 0x00A
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 (i) {
        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]!=' ') i++;
            i++;
            while (line[i]!=' ') i++;
            v = atoi(&line[i]);
        }
    }
}
```

1 Помощь 2 Сохранить 3 Блок 4 Замена 5 Копия 6 Переместить 7 Поиск

Рис. 33: Файл с программой

Работа с редактором Midnight Commander

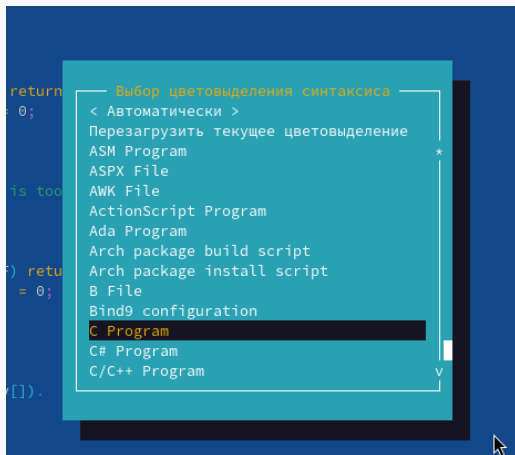


Рис. 34: Цветовыделение синтаксиса

Выводы по проделанной работе

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