

Командная оболочка Midnight Commander

ХОЮГБАН ГАНЧЫЫР АНАТОЛЬЕВИЧ¹

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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

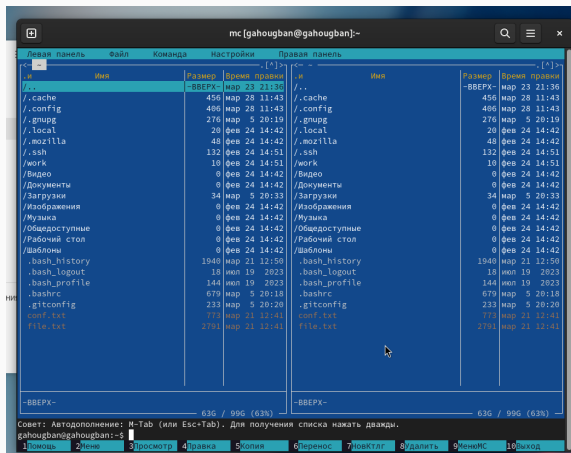


Рис. 1: Запуск mc

Работа с Midnight Commander

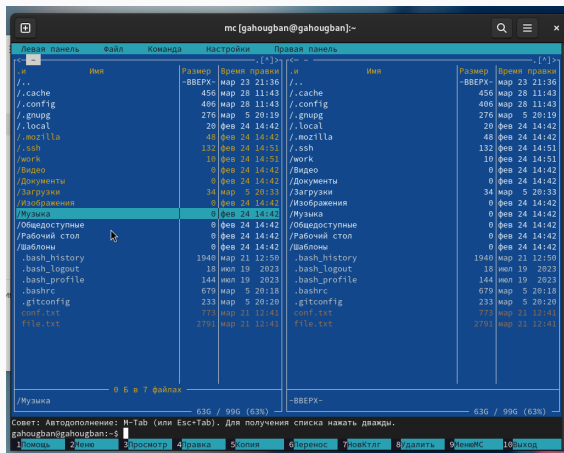


Рис. 2: Выделение

Работа с Midnight Commander

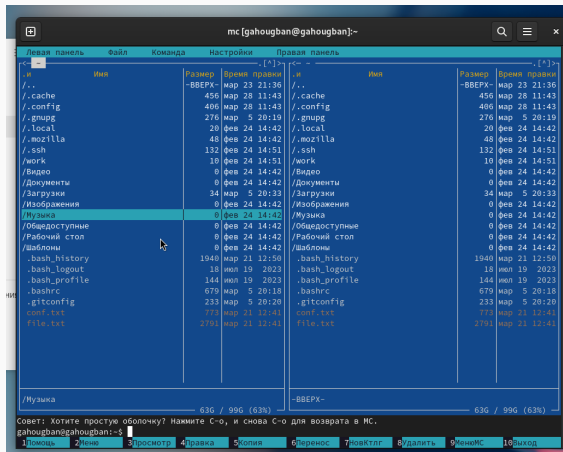


Рис. 3: Отмена

Работа с Midnight Commander

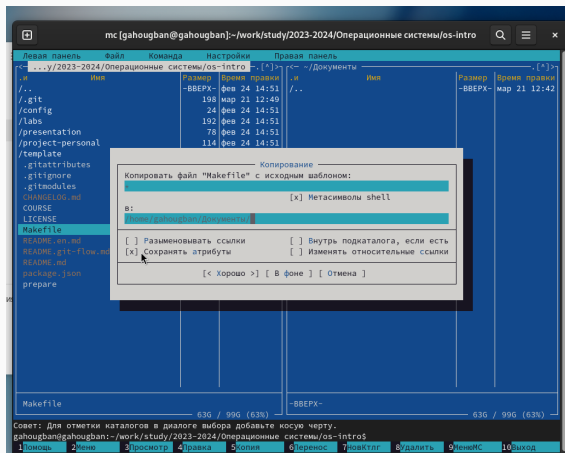


Рис. 4: Копирование

Работа с Midnight Commander

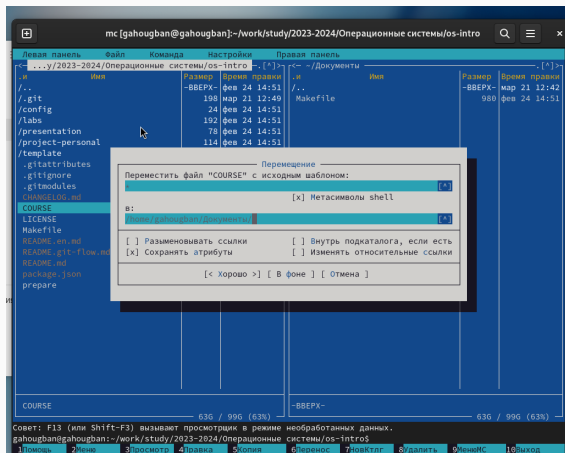


Рис. 5: Перемещение

Работа с Midnight Commander

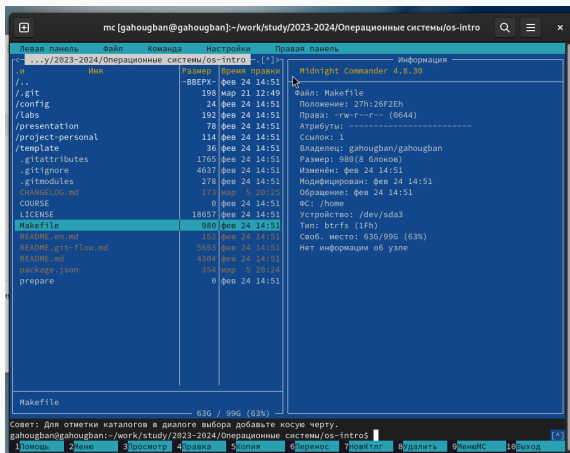


Рис. 6: Информация

Работа с Midnight Commander

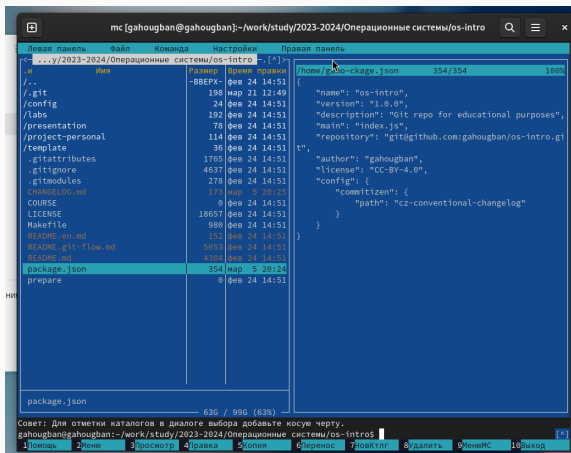


Рис. 7: Быстрый просмотр

Работа с Midnight Commander

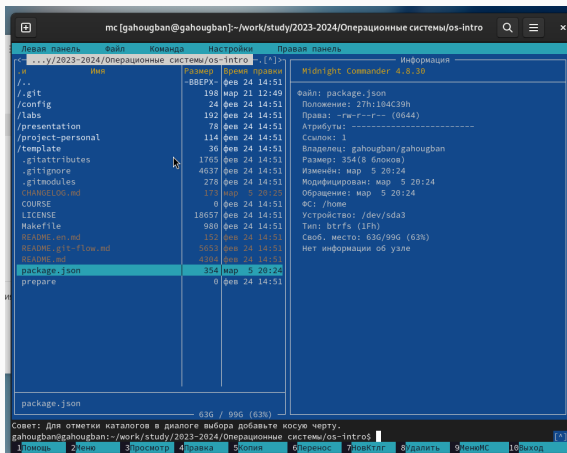


Рис. 8: Информация

Работа с Midnight Commander

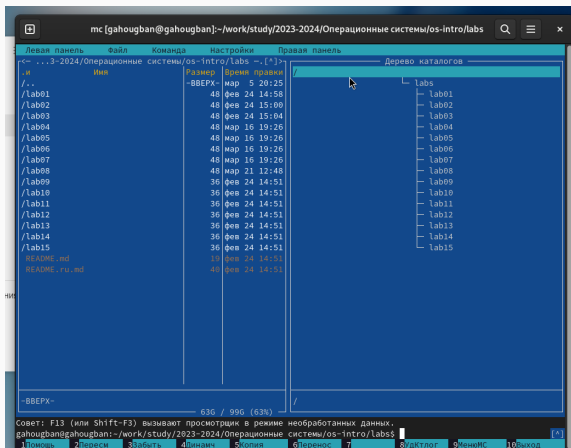
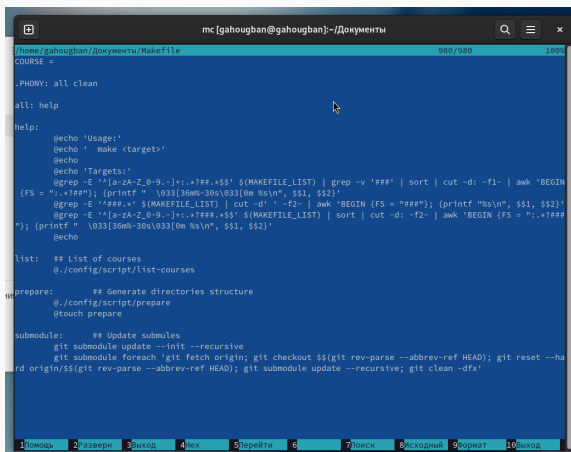


Рис. 9: Дерево каталогов

Работа с Midnight Commander



The screenshot shows a terminal window titled "mc [gahougban@gahougban]:~/Документы". The terminal displays the contents of a file named "/home/gahougban/Документы/Makefile". The file content is as follows:

```
COURSE = 980/980 100%

.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

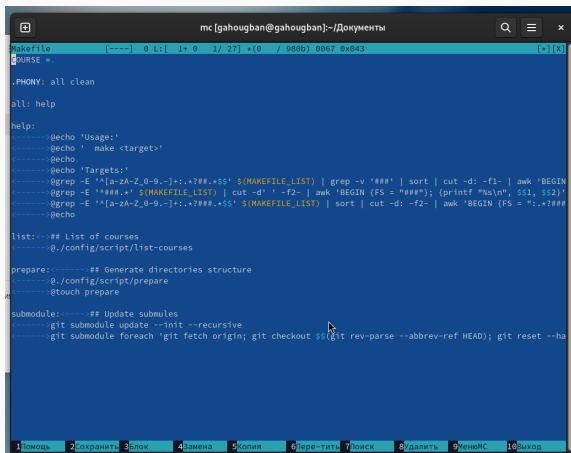
prepare: ## Generate directories structure
    @./config/script/prepare
    @touch prepare

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

At the bottom of the terminal window, there is a navigation bar with buttons: 1Помощь, 2Разверн, 3Выход, 4Лек, 5Перейти, 6, 7Поиск, 8Исходный, 9Формат, 10Выход.

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 'gahougban' at 'gahougban' in the directory '~/Документы'. The main window displays a file named 'Makefile' with a status bar at the top showing file details: '0 1: 0 1/ 27' and '*(0 / 988b) 0067 0x043'. The file content is a Makefile with various targets and rules. The status bar at the bottom contains icons and labels for file operations: 1.Помощь, 2.Сохранить, 3.Блок, 4.Вставка, 5.Копия, 6.Переместить, 7.Поиск, 8.Удалить, 9.Меню, 10.Выход.

```
Makefile
[----] 0 1: 0 1/ 27 *(0 / 988b) 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 submodules
-----git submodule update --init --recursive
-----git submodule foreach 'git fetch origin; git checkout $$ (git rev-parse --abbrev-ref HEAD); git reset --ha
```

Рис. 11: Отредактируем содержимое текстового файла без сохранения результатов

Работа с Midnight Commander

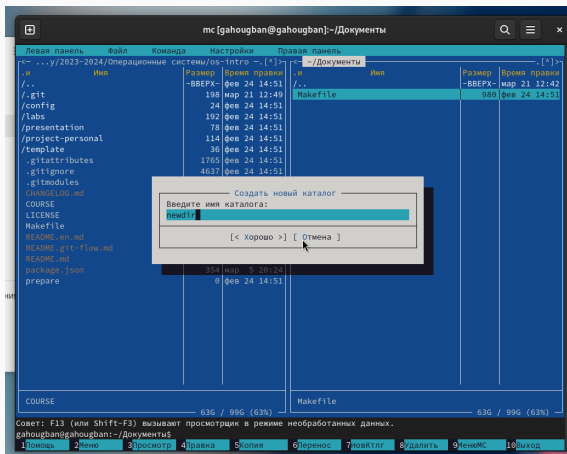


Рис. 12: Создание каталога

Работа с Midnight Commander

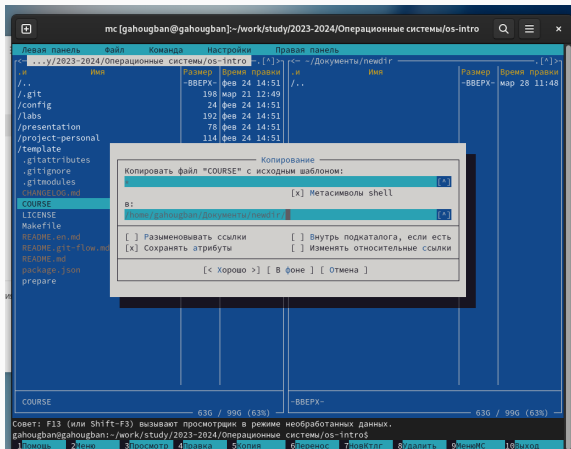


Рис. 13: Копирование в файлов в созданный каталог

Работа с Midnight Commander

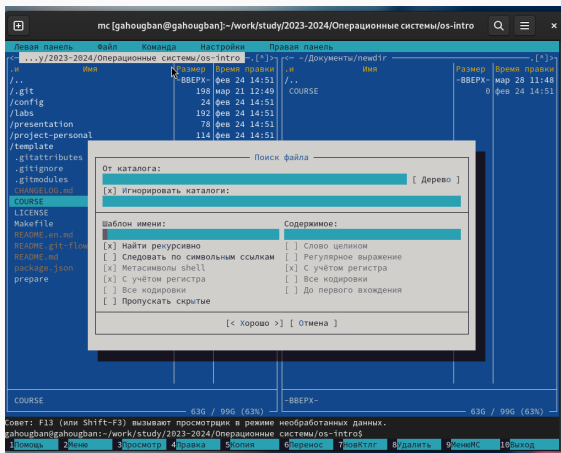


Рис. 14: Поиск файлов

Работа с Midnight Commander

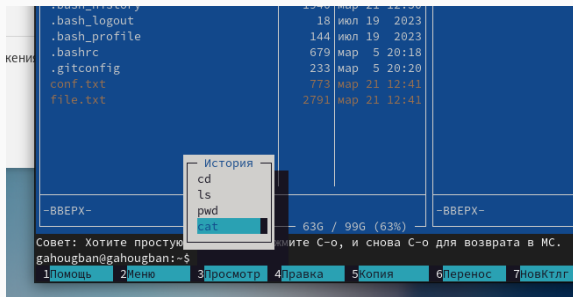


Рис. 15: История команд

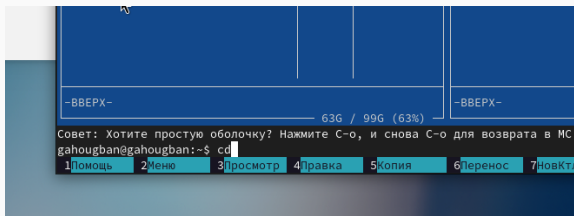


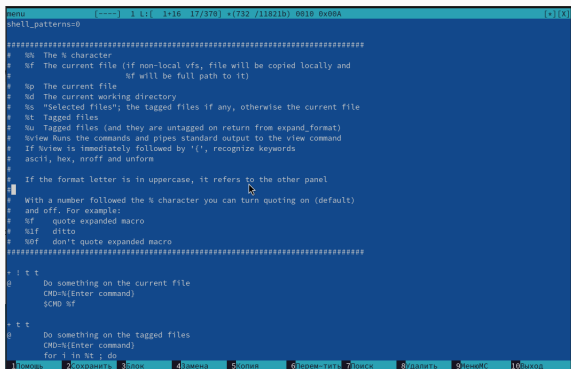
Рис. 16: Переход в домашний каталог

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

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", "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: 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
# %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

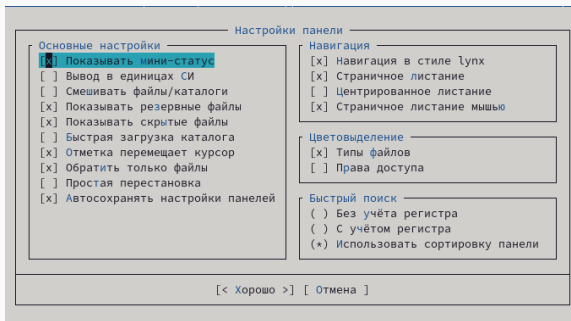


Рис. 21: Настройки панелей



Рис. 22: Подтверждение



Рис. 23: Оформление

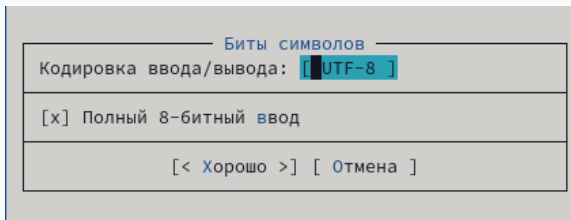


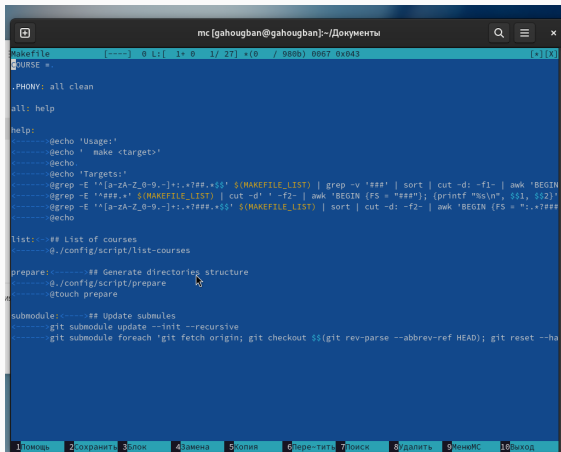
Рис. 24: Кодировка символов

Работа с Midnight Commander



Рис. 25: Распознавание клавиш

Работа с редактором Midnight Commander



```
mc [gahougban@gahougban]: ~/Документы
Makefile  [----]  0 L: [ 1* 0 1/ 27] * (0 / 988b) 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

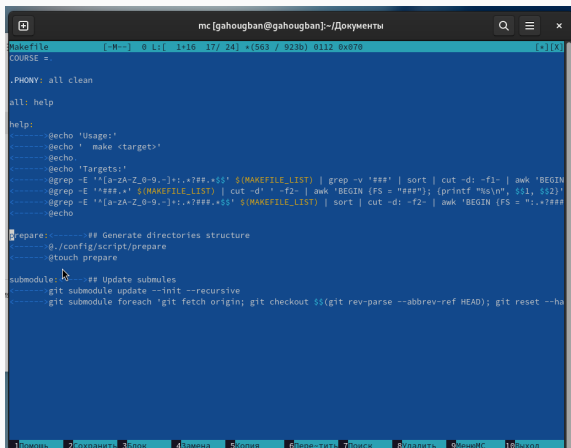
prepare:<----->## Generate directories structure
#####>@./config/script/prepare
#####>@touch prepare

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

1Помощь 2Сохранить 3Блок 4Замена 5Копия 6Пере-тигль 7Поиск 8Удалить 9МенюМС 10Выход

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 'mc [gahougban@gahougban]:~/Документы'. The main window displays a file named 'Makefile' with a status bar at the top showing '[~M~] 0 L: [1+16 17/ 24] *(563 / 923b) 0112 0x070'. The file content is a Makefile script. The status bar at the bottom contains 10 numbered icons: 1 Помощь, 2 Сохранить, 3 Блок, 4 Замена, 5 Копия, 6 Переименовать, 7 Поиск, 8 Удалить, 9 Имена, 10 Выход.

```
Makefile
COURSE =

.PHONY: all clean

all: help

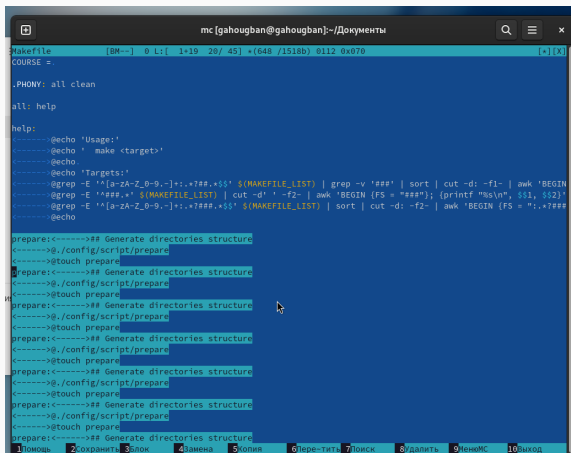
help:
<-----@echo 'Usage:'
<-----@echo ' make <target>'
<-----@echo.
<-----@echo 'Targets:'
<-----@grep -E '[a-zA-Z_0-9-]+\.[?#]+$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN
<-----@grep -E '###+' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"; printf "%s\n", $$1,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

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 --ha
```

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 'gahougban' in the directory '~/Документы'. The main window displays a file named 'Makefile' with the following content:

```
[BM--] 0 L: 1+19 20/ 45) *(648 /1518b) 0112 0x070 [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

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

At the bottom of the window, a menu bar is visible with the following items: 1Помощь, 2Сохранить, 3Блок, 4Вставка, 5Копия, 6Пере-тиг, 7Поиск, 8Удалить, 9МенюМС, 10Выход.

Рис. 28: Копирование фрагмента

Работа с редактором Midnight Commander

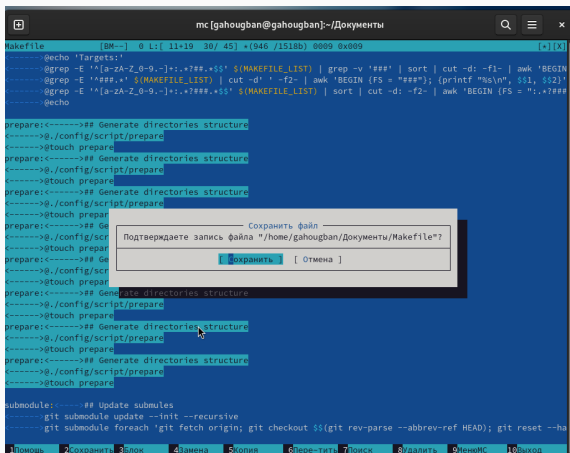


Рис. 29: Сохранение

Работа с редактором Midnight Commander

```
mc [gahougban@gahougban]~/Документы
makefile [BW--] 0 L: 1+19 20/ 33] +(648 /1178b) 0112 0x070 [*)(X]
COURSE = .

.PHONY: all clean

all: help

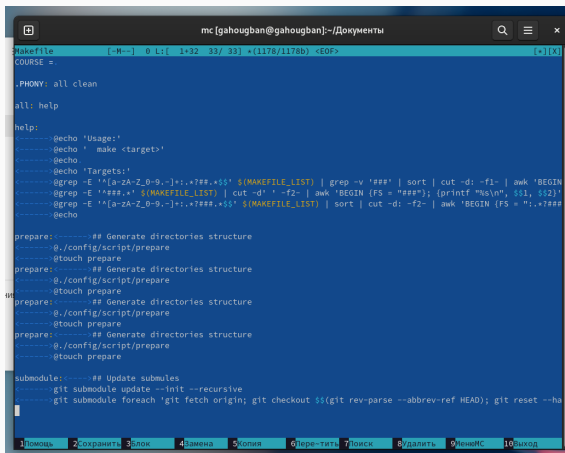
help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo.
-----@echo 'Targets:'
-----@grep -E '^[a-zA-Z_0-9.-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1 | awk 'BEGIN
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"}; {printf "%s\n", $$1,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

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

Рис. 30: Отмена

Работа с редактором Midnight Commander



```
mc [gahougban@gahougban]:~/Документы
Makefile [-M--] 0 L: 1+32 33/ 33) +(1178/1178b) <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

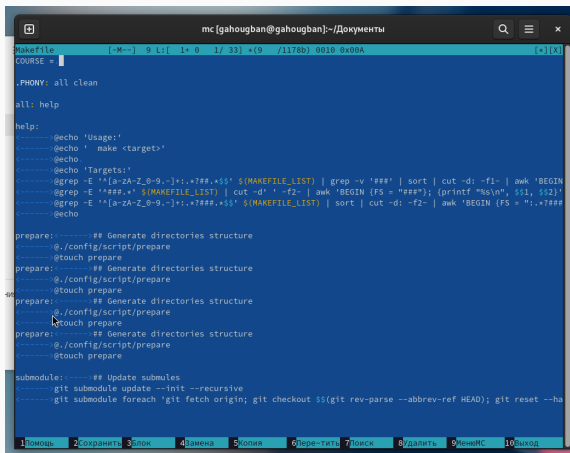
prepare:-----## Generate directories structure
{-----}@./config/script/prepare
{-----}@touch prepare
prepare:-----## Generate directories structure
{-----}@./config/script/prepare
{-----}@touch prepare
prepare:-----## Generate directories structure
{-----}@./config/script/prepare
{-----}@touch prepare
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 --ha
```

1)Помощь 2)Сохранить 3)Блок 4)Замена 5)Южия 6)Пере-тигы 7)Поиск 8)Удалить 9)МенюМС 10)Выход

Рис. 31: Переход в конец файла

Работа с редактором Midnight Commander



```
mc [gahougban@gahougban]:~/Документы
Makefile [-M--] 9 L: [ 1+ 0 1/ 33] *(9 /1178b) 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

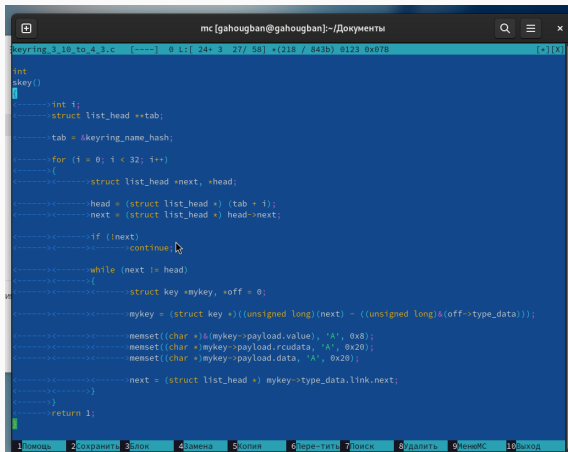
prepare:----- ## Generate directories structure
----->@./config/script/prepare
----->@touch prepare
prepare:----- ## Generate directories structure
----->@./config/script/prepare
----->@touch prepare
prepare:----- ## Generate directories structure
----->@./config/script/prepare
----->@touch prepare
prepare:-----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

1 Понюх 2 Сохранить 3 Блок 4 Ванна 5 Копия 6 Пере-тиг 7 Поиск 8 Удалить 9 МенюМС 10 Выход

Рис. 32: Переход в начало файла

Работа с редактором Midnight Commander



```
keyring_3_10_to_4_3.c  [----]  0 L: [ 24+ 3  27/ 50]  *(218 / 843b)  0123 0x078  [*] [X]

int
skey()
{
    <-----><-----><-----> int i;
    <-----><-----><-----> struct list_head **tab;

    <-----><-----><-----> tab = &keyring_name_hash;

    <-----><-----><-----> for (i = 0; i < 32; i++)
    <-----><-----><-----> {
    <-----><-----><-----> <-----><-----><-----> struct list_head *next, *head;

    <-----><-----><-----> <-----><-----><-----> head = (struct list_head *) (tab + i);
    <-----><-----><-----> <-----><-----><-----> next = (struct list_head *) head->next;

    <-----><-----><-----> <-----><-----><-----> if (!next)
    <-----><-----><-----> <-----><-----><-----> continue;

    <-----><-----><-----> <-----><-----><-----> while (next != head)
    <-----><-----><-----> {
    <-----><-----><-----> <-----><-----><-----> struct key *mykey, *off = 0;

    <-----><-----><-----> <-----><-----><-----> mykey = (struct key *) ((unsigned long) (next) - ((unsigned long) &(off->type_data)));

    <-----><-----><-----> <-----><-----><-----> memset((char *) &(mykey->payload.value), 'A', 0x8);
    <-----><-----><-----> <-----><-----><-----> memset((char *) mykey->payload.rcudata, 'A', 0x20);
    <-----><-----><-----> <-----><-----><-----> memset((char *) mykey->payload.data, 'A', 0x20);

    <-----><-----><-----> <-----><-----><-----> next = (struct list_head *) mykey->type_data.link.next;
    <-----><-----><-----> }
    <-----><-----><-----> }
    <-----><-----><-----> return 1;
}
```

Рис. 33: Файл с программой

Работа с редактором Midnight Commander

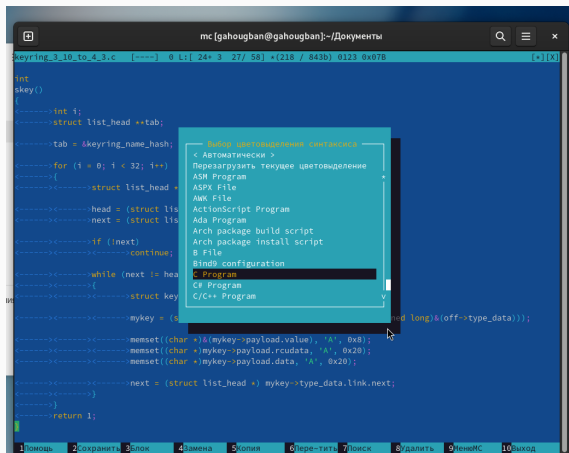


Рис. 34: Цветовыделение синтаксиса

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.