

Командная оболочка Midnight Commander

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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

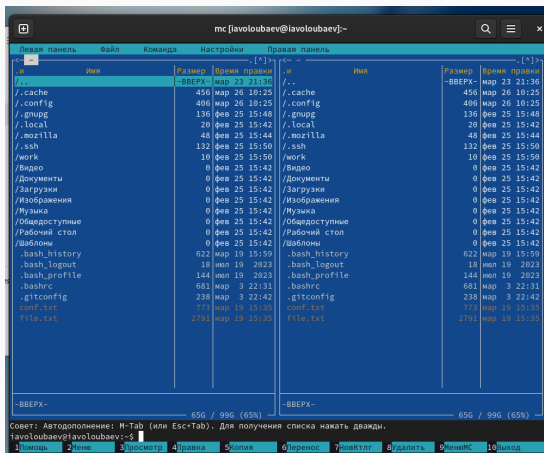


Рис. 1: Запуск mc

Работа с Midnight Commander

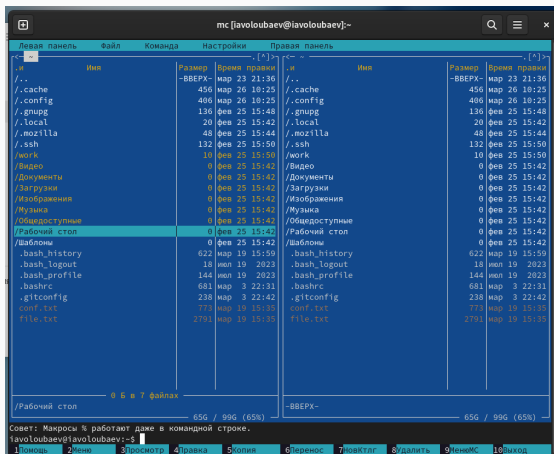


Рис. 2: Выделение

Работа с Midnight Commander

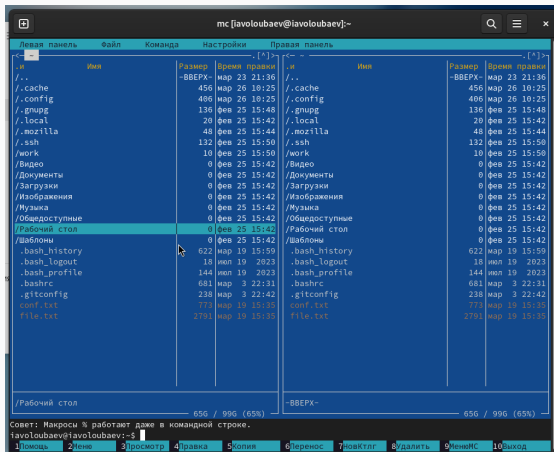


Рис. 3: Отмена

Работа с Midnight Commander

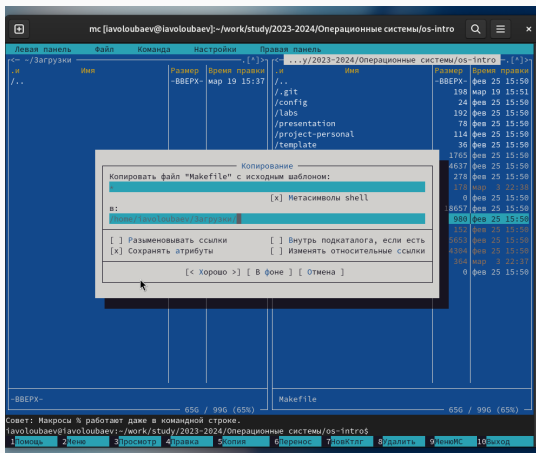


Рис. 4: Копирование

Работа с Midnight Commander

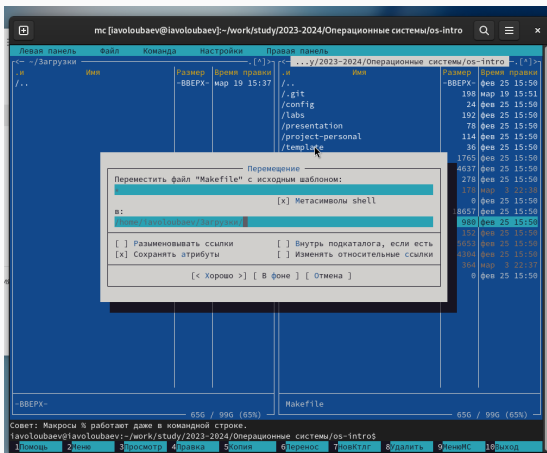


Рис. 5: Перемещение

Работа с Midnight Commander

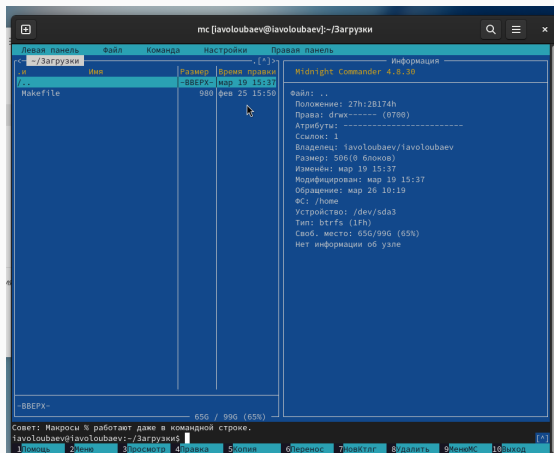


Рис. 6: Информация

Работа с Midnight Commander

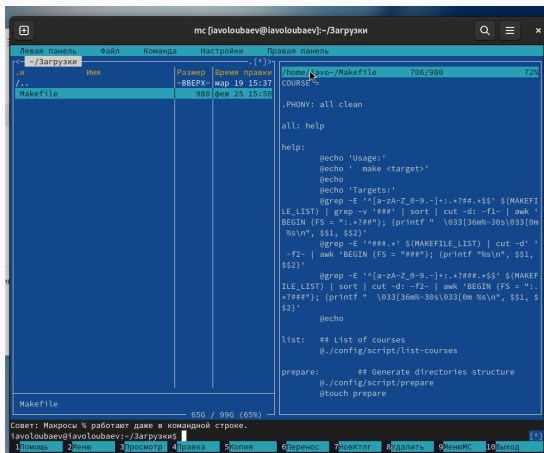


Рис. 7: Быстрый просмотр

Работа с Midnight Commander

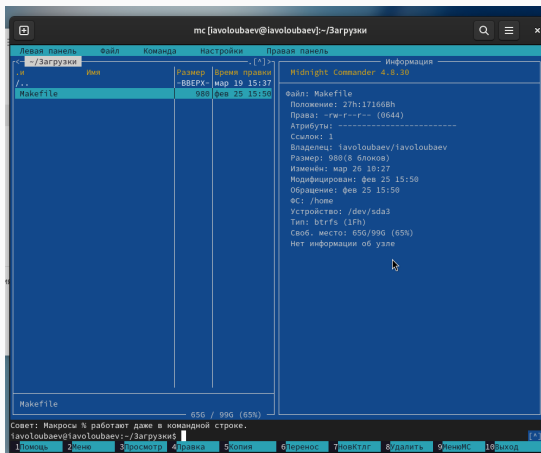


Рис. 8: Информация

Работа с Midnight Commander

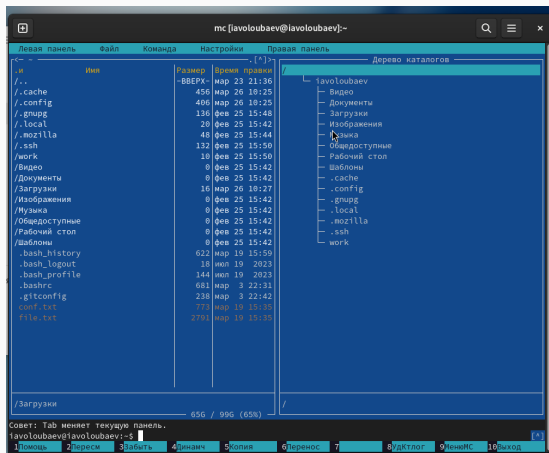
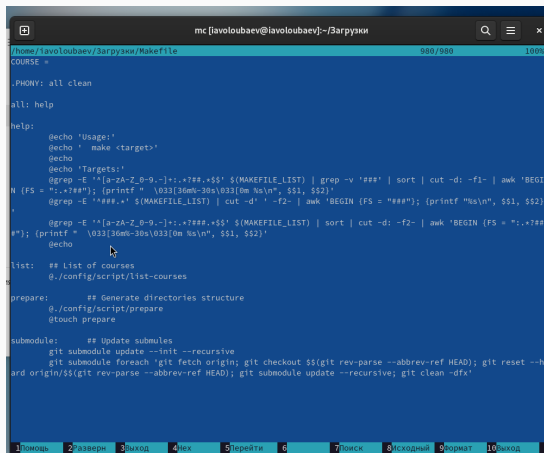


Рис. 9: Дерево каталогов

Работа с Midnight Commander



The screenshot shows the Midnight Commander (mc) interface. The title bar indicates the user is 'javouloubaev@iavouloubaev' in the directory '~/.Заргуки'. The main window displays the contents of a file named 'Makefile' located at '/home/javouloubaev/Заргуки/Makefile'. The file size is 980/980 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-]+.*?##.*$$' $(MAKEFILE_LIST) | grep -v '##' | sort | cut -d: -f1 | awk 'BEGIN
N (FS = ".*?##"); {printf " \033[36m%-30s\033[0m %s\n", $$1, $$2}'
    @grep -E '^[##].*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "##"}; {printf "%s\n", $$1, $$2}
'
    @grep -E '^[a-zA-Z_0-9-]+.*?7##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = ".*?7##
#"); {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 --h
ard origin/$(git rev-parse --abbrev-ref HEAD); git submodule update --recursive; git clean -dfx'
```

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

Рис. 10: Просмотр содержимого текстового файла

Работа с Midnight Commander

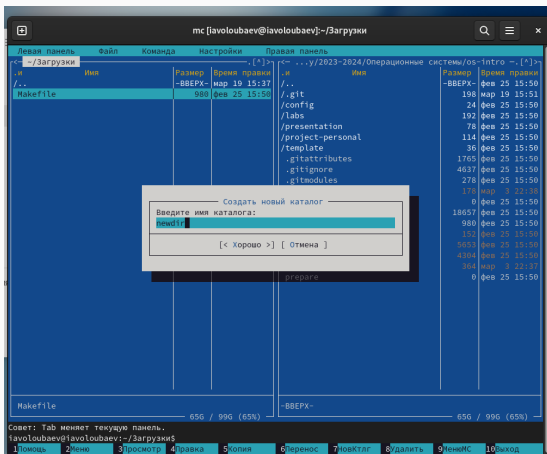


Рис. 12: Создание каталога

Работа с Midnight Commander

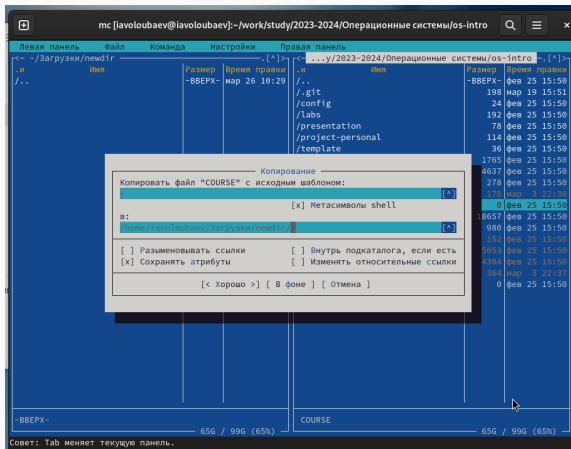


Рис. 13: Копирование в файлов в созданный каталог

Работа с Midnight Commander

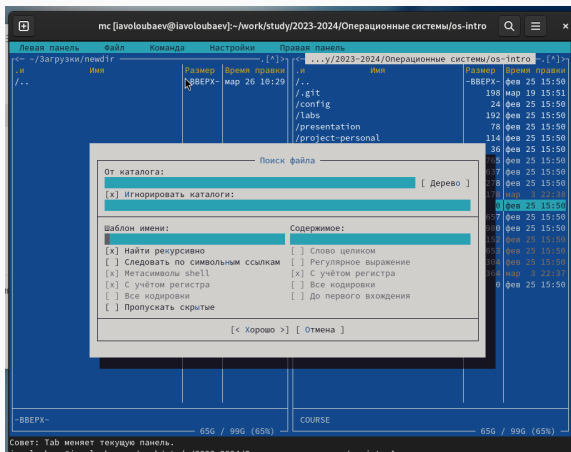


Рис. 14: Поиск файлов

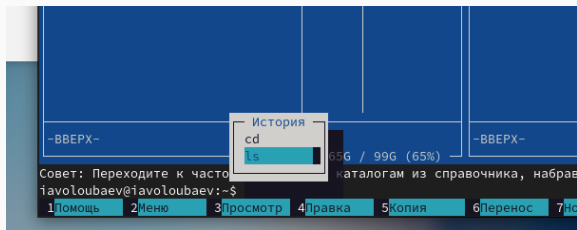


Рис. 15: История команд

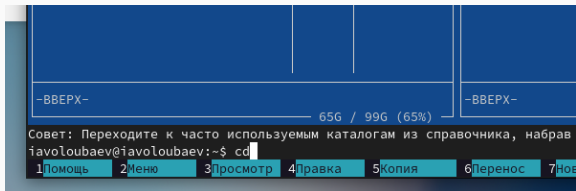


Рис. 16: Переход в домашний каталог

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: Скопировать 6: Перенести 7: Повторить 8: Удалить 9: Найти 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 '!', 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 '!', 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 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



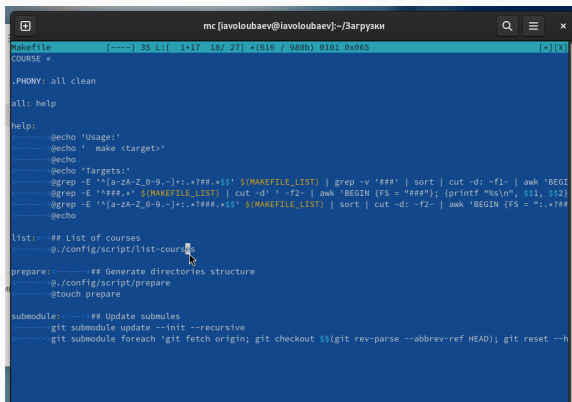
Рис. 24: Кодировка символов

Работа с Midnight Commander



Рис. 25: Распознавание клавиш

Работа с редактором Midnight Commander



```
mc [iavoloubaev@iavoloubaev]:~/Загрузки
Makefile  [----] 35 L: [ 1-17 18/ 27] +(616 / 980b) 0101 0x065 [-][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

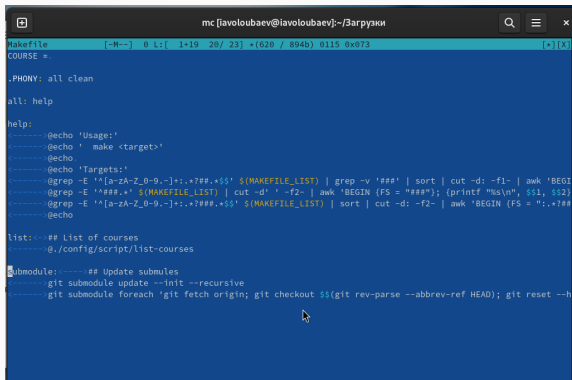
list:## List of courses
-----@./config/script/list-courses

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 --
```

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 'iavoloubaev@iavoloubaev' in the directory '~/.Загрузки'. The status bar at the top shows file statistics for 'Makefile': [-M--] 0 L: [1+19 20/ 23] *(620 / 894b) 0115 0x073 [~][X]. The main editing area displays the content of the Makefile, which includes a 'COURSE =' line, a '.PHONY: all clean' declaration, and a 'help:' target. The 'help:' target contains several echo commands and complex shell commands using grep, cut, sort, and awk to process the 'MAKEFILE_LIST' variable. The bottom of the screen shows the 'list:' target with a comment '# List of courses' and a command to run a script at './config/script/list-courses'. The 'submodule:' target includes comments and commands for updating submodules and resetting the git checkout.

```
Makefile [-M--] 0 L: [ 1+19 20/ 23] *(620 / 894b) 0115 0x073 [~][X]
COURSE =

.PHONY: all clean

all: help

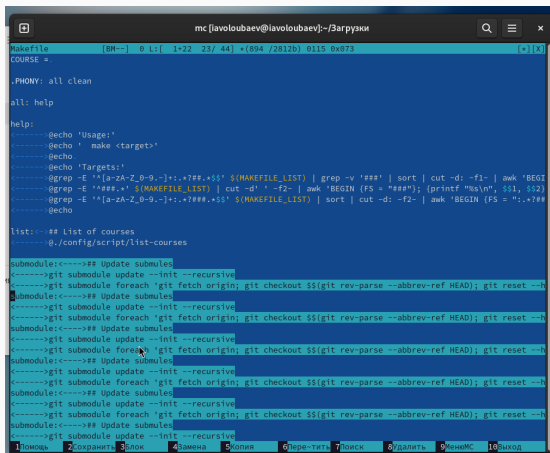
help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo.
-----@echo 'Targets:'
-----@grep -E '^[a-zA-Z_0-9.-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN (FS = "###"); (printf "%s\n", $$1,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

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

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

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 [javeloubaev@javeloubaev] in the directory ~/Зарядки. The main window displays a file named 'Makefile' with a size of 0 KiB, last modified on 1+22 23/ 44, and a permissions string of +(-894 / 2812b) 0115 0x073. The file content is as follows:

```
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

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

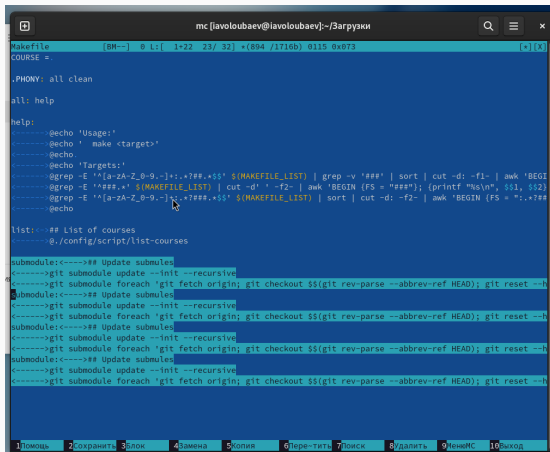
At the bottom of the window, there is a status bar with the following buttons: 1Помощь, 2Сохранить, 3Блок, 4Замена, 5Копия, 6Пере-тиг, 7Поиск, 8Удалить, 9МенюМС, 10Выход.

Рис. 28: Копирование фрагмента

[illegible]

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Работа с редактором Midnight Commander



The screenshot shows the Midnight Commander (MC) interface. The title bar indicates the user is [javoloubaev@javoloubaev] in the directory ~/Зарядки. The main window displays a Makefile with the following content:

```
Makefile [BM--] 0 L: [ 1+22 23/ 32] +(894 /1716b) 0115 0x073 [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", $2, $3)
<-----@grep -E '[a-zA-Z_0-9-]+\.[7##.##]' $(MAKEFILE_LIST) | sort | cut -d: -f2 | awk 'BEGIN (FS = ".+7##
<-----@echo

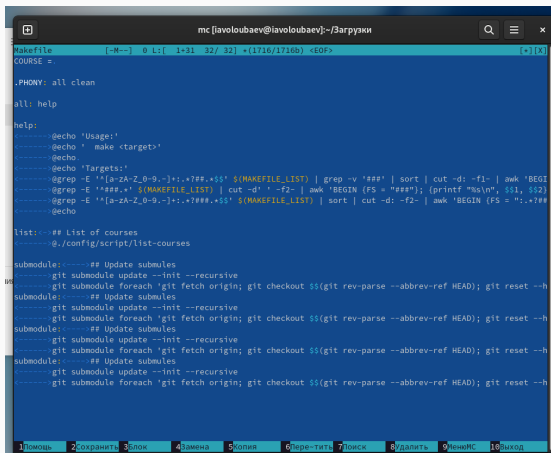
list:--## List of courses
<-----@./config/script/list-courses

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

At the bottom of the window, there is a menu bar with the following items: 1Помощь, 2Сохранить, 3Выход, 4Замена, 5Копия, 6Пере-тить, 7Поиск, 8Удалить, 9Имена, 10Выход.

Рис. 30: Отмена

Работа с редактором Midnight Commander



The screenshot shows the Midnight Commander (MC) interface. The title bar indicates the user is 'iavloulbaev@iavloulbaev' in the directory '~/Зарядки'. The main window displays a 'Makefile' with the following content:

```
Makefile      [-M--]  0 L: [ 1+31 32/ 32] +(1716/1716b) <EOF>
COURSE =

.PHONY: all clean

all: help

help:
-----@echo 'Usage:'
-----@echo '  make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '[a-zA-Z_0-9-]+\.[789].*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN (FS = "##"); (printf "%s\n", $$1, $$2)
-----@grep -E '[a-zA-Z_0-9-]+\.[789].*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN (FS = ":[789
-----@echo

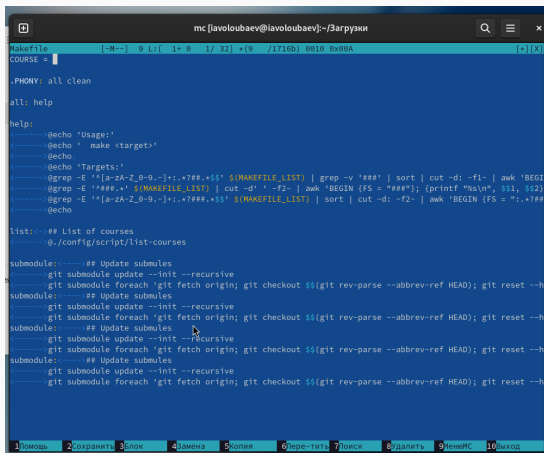
list:--## List of courses
-----@./config/script/list-courses

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

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

Рис. 31: Переход в конец файла

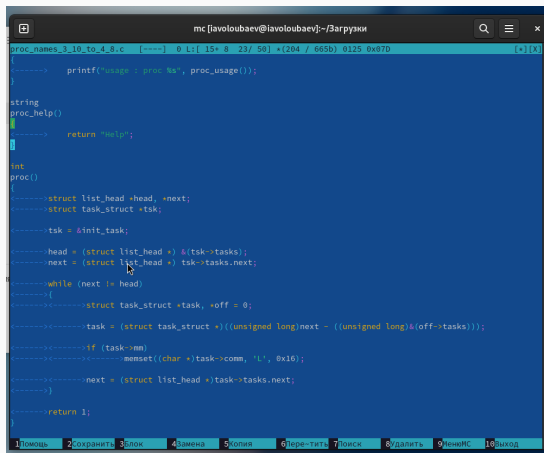
Работа с редактором Midnight Commander



```
mc [javaloubae@javaloubae:~/Загрузки
Makefile [-M--] 9 L: [ 1+ 0 1/ 32] +(9 /1716b) 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-]+\.[789].*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1 | awk 'BEGIN
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d: -f2- | awk 'BEGIN {FS = "###"}; {printf "%s\n", $$1, $$2}
-----@grep -E '^[a-zA-Z_0-9-]+\.[789].*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = ".*?##
-----@echo
list:--## List of courses
-----@./config/script/list-courses
submodule:--## Update submodules
-----git submodule update --init --recursive
-----git submodule foreach 'git fetch origin; git checkout $$ (git rev-parse --abbrev-ref HEAD); git reset --h
submodule:--## Update submodules
-----git submodule update --init --recursive
-----git submodule foreach 'git fetch origin; git checkout $$ (git rev-parse --abbrev-ref HEAD); git reset --h
submodule:--## Update submodules
-----git submodule update --init --recursive
-----git submodule foreach 'git fetch origin; git checkout $$ (git rev-parse --abbrev-ref HEAD); git reset --h
submodule:--## Update submodules
-----git submodule update --init --recursive
-----git submodule foreach 'git fetch origin; git checkout $$ (git rev-parse --abbrev-ref HEAD); git reset --h
```

Рис. 32: Переход в начало файла

Работа с редактором Midnight Commander



```
mc [iavoloubaev@iavoloubaev]~/Загрузки
proc_names_3_10_to_4_8.c  [----]  0 Li: [ 15+ 8  23/ 50] *(204 / 665b) 0125 0x070  [.*] [X]

-----> printf("usage : proc %s", proc_usage());
}

string
proc_help()
{
----->   return "help";
}

int
proc()
{
-----> struct list_head *head, *next;
-----> struct task_struct *tsk;

-----> tsk = &init_task;

-----> head = (struct list_head *) &(tsk->tasks);
-----> next = (struct list_head *) tsk->tasks.next;

-----> while (next != head)
-----> {
----->-----> struct task_struct *task, *off = 0;

----->-----> task = (struct task_struct *) ((unsigned long)next - ((unsigned long)&(off->tasks)));

----->-----> if (task->mm)
----->----->-----> memset((char *)task->comm, 'L', 0x16);

----->-----> next = (struct list_head *) task->tasks.next;
-----> }

-----> return 1;
}

1Помощь 2Сохранить 3Блок 4Замена 5Копия 6Пере-тиг 7Поиск 8Удалить 9Выход
```

Рис. 33: Файл с программой

Работа с редактором Midnight Commander

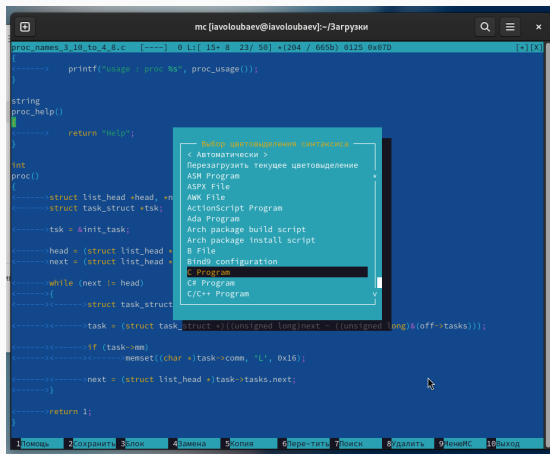


Рис. 34: Цветовыделение синтаксиса

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.