

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

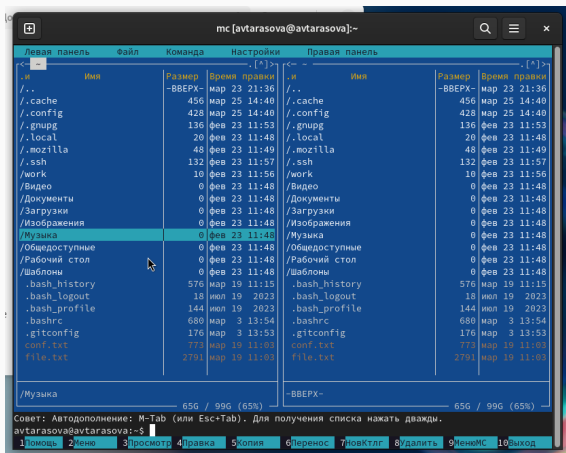


Рис. 1: Запуск mc

Работа с Midnight Commander

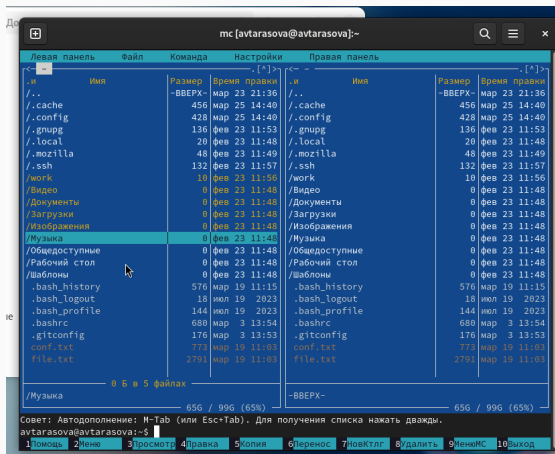


Рис. 2: Выделение

Работа с Midnight Commander

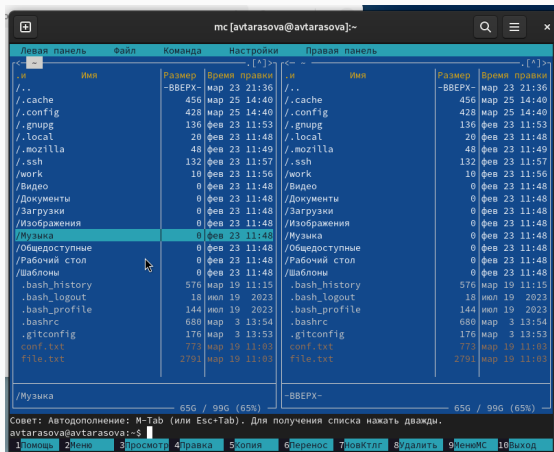


Рис. 3: Отмена

Работа с Midnight Commander

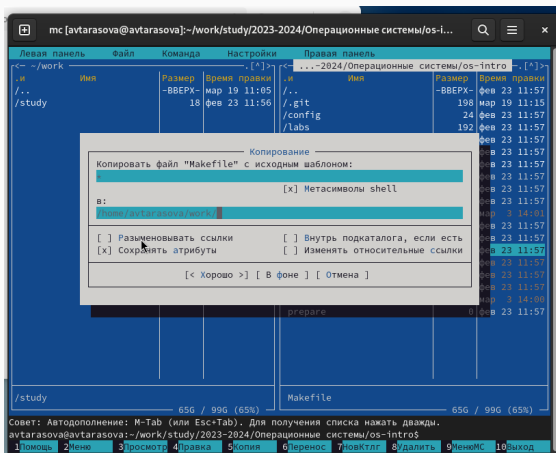


Рис. 4: Копирование

Работа с Midnight Commander

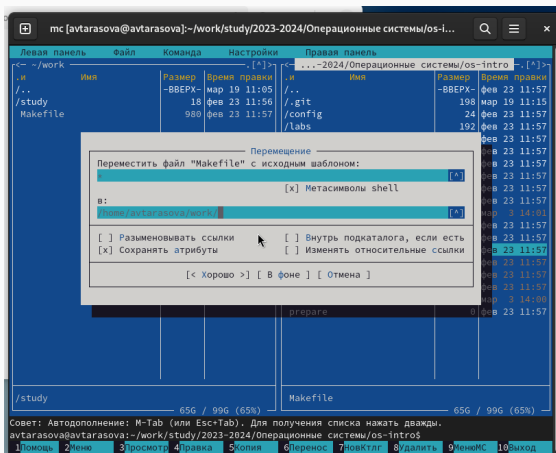


Рис. 5: Перемещение

Работа с Midnight Commander

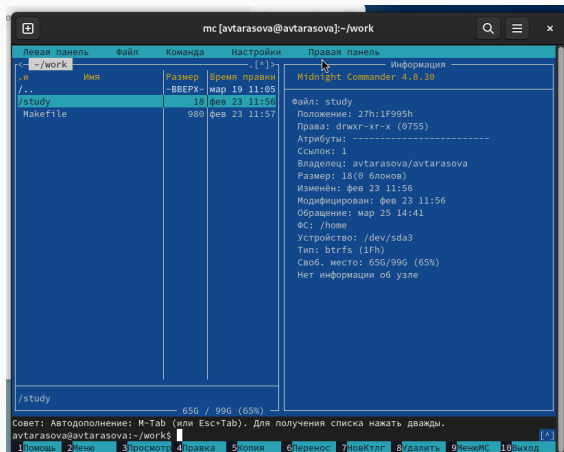


Рис. 6: Информация

Работа с Midnight Commander

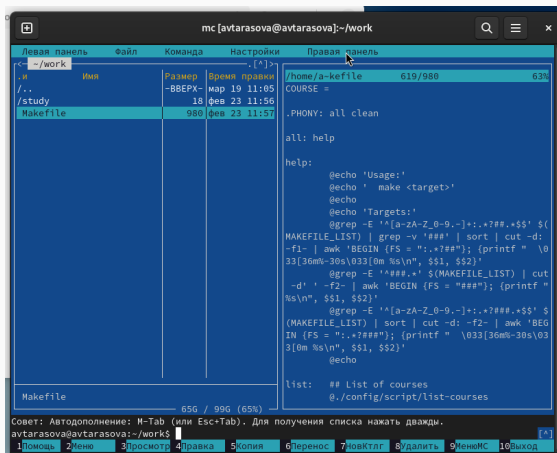


Рис. 7: Быстрый просмотр

Работа с Midnight Commander

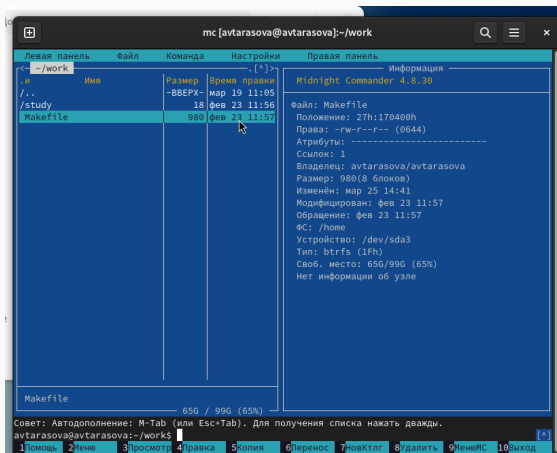


Рис. 8: Информация

Работа с Midnight Commander

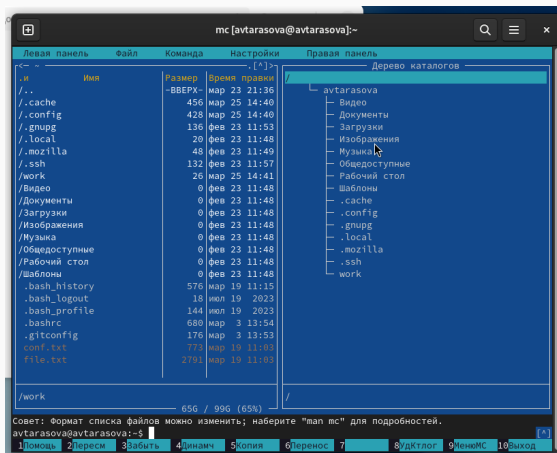


Рис. 9: Дерево каталогов

Работа с Midnight Commander

```
mc [avtarasova@avtarasova]:~/work

/home/avtarasova/work/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

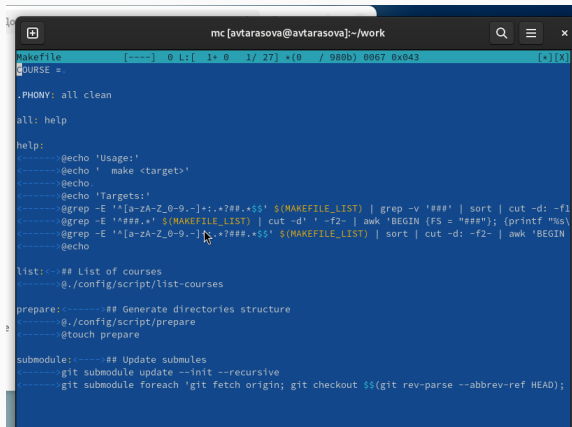
list:  ## List of courses
    @./config/script/list-courses

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

Рис. 11: Отредактируем содержимое текстового файла без сохранения результатов

Работа с Midnight Commander

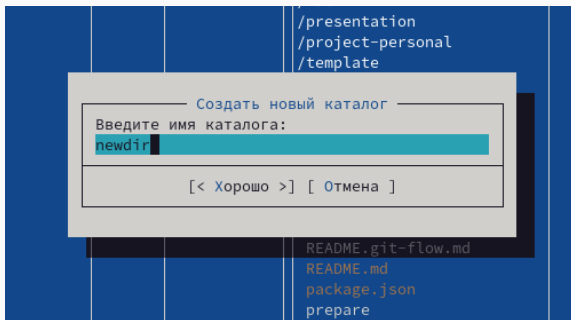


Рис. 12: Создание каталога

Работа с Midnight Commander

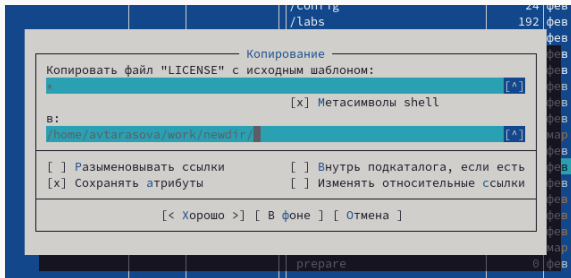


Рис. 13: Копирование в файлы в созданный каталог

Работа с Midnight Commander

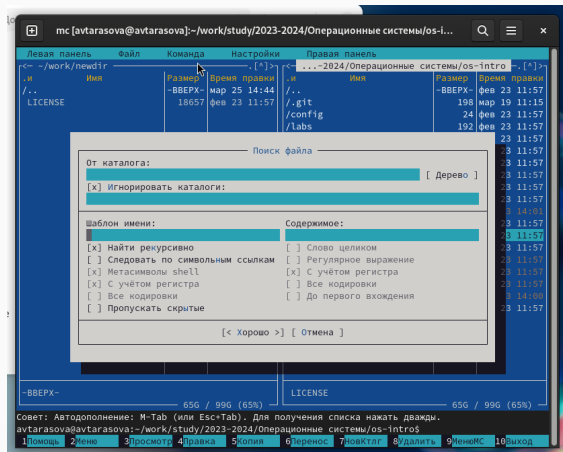


Рис. 14: Поиск файлов

Работа с Midnight Commander

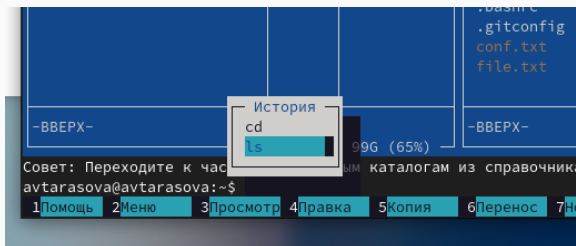


Рис. 15: История команд

Работа с Midnight Commander

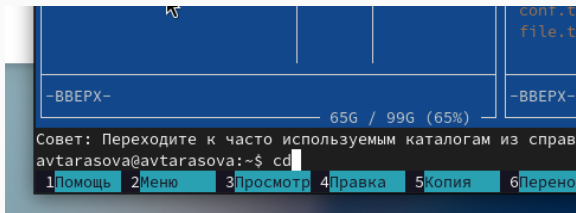


Рис. 16: Переход в домашний каталог

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: Перенести 7: Повтор 8: Удалить 9: НенавС 10: Выход". The menu content includes options like "shell_patterns=0", "#####", "F 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 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 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: 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
# % 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 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



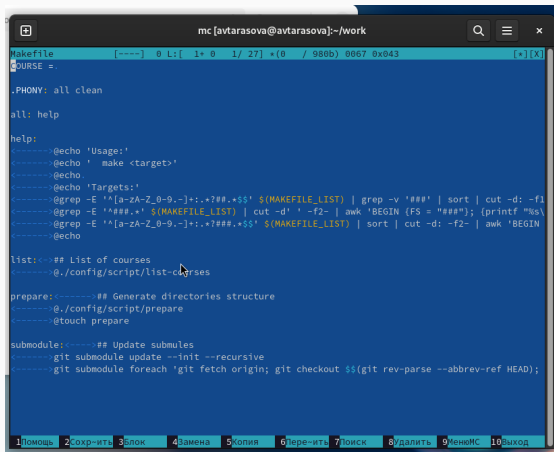
Рис. 24: Кодировка символов

Работа с Midnight Commander



Рис. 25: Распознавание клавиш

Работа с редактором Midnight Commander



The screenshot shows the Midnight Commander (MC) interface. The title bar indicates the user is 'avtarasova@avtarasova' in the directory '~/work'. The window title is 'Makefile'. The status bar at the bottom shows various icons and a list of actions: 1. Помощь, 2. Сохр-ить, 3. Блок, 4. Вставка, 5. Копия, 6. Пере-ить, 7. Поиск, 8. Удалить, 9. Меню, 10. Выход. The main text area displays the content of the Makefile, which includes a 'COURSE =' line, a 'phony:' section, and a 'list:' section. The 'list:' section contains a command to list courses from a file. The 'prepare:' section contains commands to generate directory structure and touch a file. The 'submodule:' section contains commands to update submodules.

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

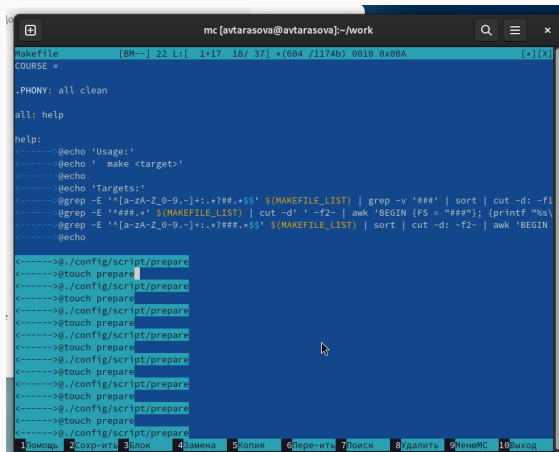
list:<--## List of courses
<----->@./config/script/list-courses

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);'
```

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 [avtarasova@avtarasova]:~/work'. The main window displays a file named 'Makefile' with a status bar at the bottom showing various keyboard shortcuts like '1Помощь', '2Сохранить', etc. The file content is as follows:

```
Makefile      [8M--] 22 L: [ 1+17 18/ 37] *(604 /1174b) 0010 0x00A [ * ] [X]
COURSE = .

.PHONY: all clean

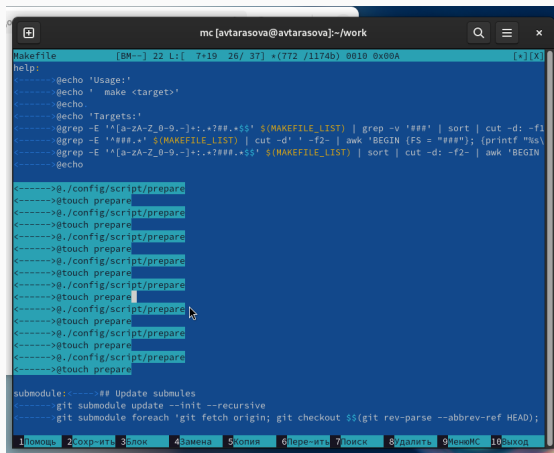
all: help

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

<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
```

Рис. 27: Файл с текстом

Работа с редактором Midnight Commander



```
mc [avtarasova@avtarasova]:~/work
Makefile [BM~] 22 L: [ 7+19 26/ 37] *(772 /1174b) 0010 0x00A [*][X]
help:
<----->@echo 'Usage:'
<----->@echo ' make <target>'
<----->@echo.
<----->@echo 'Targets:'
<----->@egrep -E '^[a-zA-Z_0-9.-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1
<----->@egrep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN (FS = "###"); (printf "%s\
<----->@egrep -E '^[a-zA-Z_0-9.-]+:.*?##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN
<----->@echo

<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./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);

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

Рис. 28: Копирование фрагмента

Работа с редактором Midnight Commander

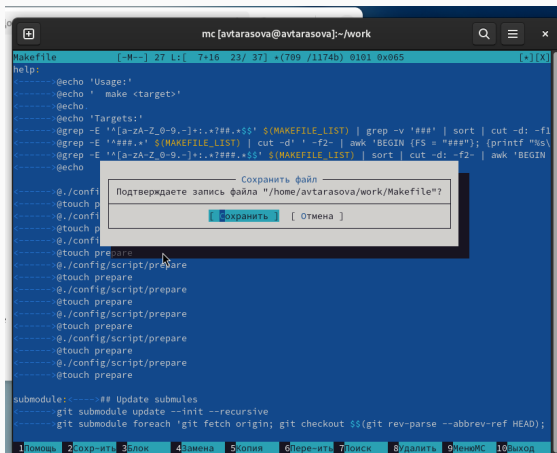
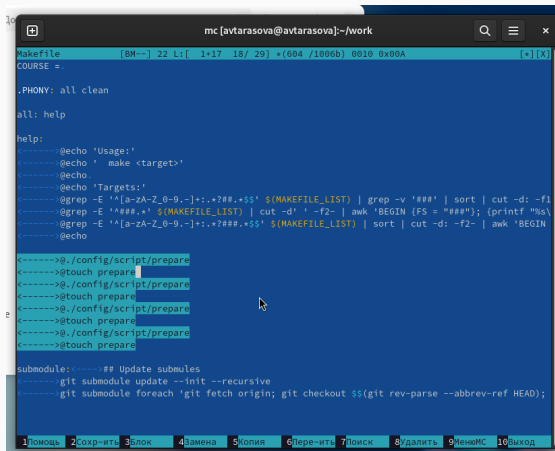


Рис. 29: Сохранение

Работа с редактором Midnight Commander



```
mc [avtarasova@avtarasova]:~/work

Makefile      [BM--] 22 L: [ 1+17 18/ 29] +(604 /1006b) 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-~]+.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1
<----->@grep -E '^###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###";} {printf "%s\\n";}'
<----->@grep -E '^[a-zA-Z_0-9-~]+.*?##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN
<----->@echo

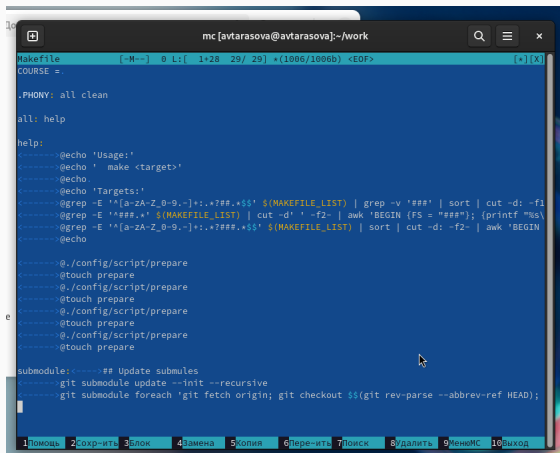
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare

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

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

Рис. 30: Отмена

Работа с редактором Midnight Commander



```
mc [avtarasova@avtarasova]:~/work

Makefile  [-M--]  0 L: [ 1+28  29/ 29]  *(1006/1006b)  <EOF>  [*][X]
COURSE = .

.PHONY: all clean

all: help

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

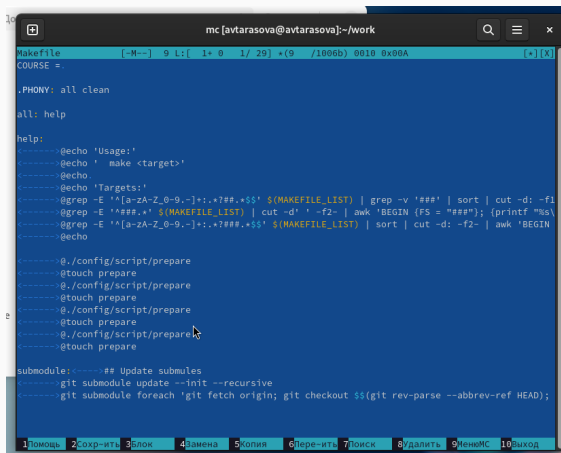
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare

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

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

Рис. 31: Переход в конец файла

Работа с редактором Midnight Commander



```
mc [avtarasova@avtarasova]:~/work
Makefile  [-M--]  9 L:[ 1+ 0 1/ 29] +(9 /1006b) 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.-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1
<----->@grep -E '^###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"}; {printf "%s\\n", $0}'
<----->@grep -E '^^[a-zA-Z_0-9.-]+:.*?##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN
<----->@echo

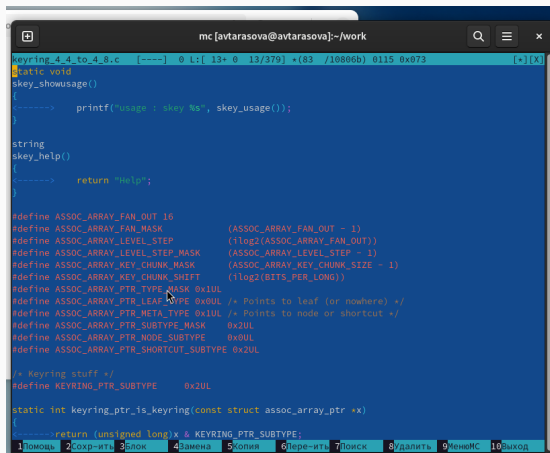
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare
<----->@./config/script/prepare
<----->@touch prepare

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

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Рис. 32: Переход в начало файла

Работа с редактором Midnight Commander



```
mc [avtarasova@avtarasova]:~/work
keyring_4.4_to_4.8.c  [----]  0 L:[ 13+ 0 13/379] *(83 /10806b) 0115 0x073 [X]
static void
key_showusage()
{
    <----->    printf("usage : key %s", key_usage());
}

string
key_help()
{
    <----->    return "Help";
}

#define ASSOC_ARRAY_FAN_OUT 16
#define ASSOC_ARRAY_FAN_MASK      (ASSOC_ARRAY_FAN_OUT - 1)
#define ASSOC_ARRAY_LEVEL_STEP    (ilog2(ASSOC_ARRAY_FAN_OUT))
#define ASSOC_ARRAY_LEVEL_STEP_MASK (ASSOC_ARRAY_LEVEL_STEP - 1)
#define ASSOC_ARRAY_KEY_CHUNK_MASK (ASSOC_ARRAY_KEY_CHUNK_SIZE - 1)
#define ASSOC_ARRAY_KEY_CHUNK_SHIFT (ilog2(BITS_PER_LONG))
#define ASSOC_ARRAY_PTR_TYPE_MASK 0x1UL
#define ASSOC_ARRAY_PTR_LEAF_TYPE 0x0UL /* Points to leaf (or nowhere) */
#define ASSOC_ARRAY_PTR_META_TYPE 0x1UL /* Points to node or shortcut */
#define ASSOC_ARRAY_PTR_SUBTYPE_MASK 0x2UL
#define ASSOC_ARRAY_PTR_NODE_SUBTYPE 0x0UL
#define ASSOC_ARRAY_PTR_SHORTCUT_SUBTYPE 0x2UL

/* Keyring stuff */
#define KEYRING_PTR_SUBTYPE      0x2UL

static int keyring_ptr_is_keyring(const struct assoc_array_ptr *x)
{
    <----->return (unsigned long)x & KEYRING_PTR_SUBTYPE;
}

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```

Рис. 33: Файл с программой

Работа с редактором Midnight Commander

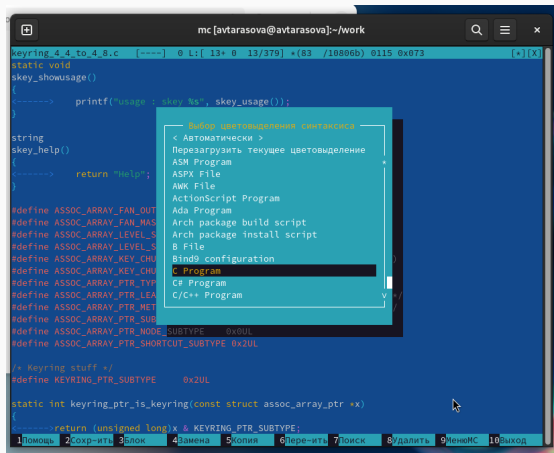


Рис. 34: Цветовыделение синтаксиса

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.