

Командная оболочка Midnight Commander

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25 марта, 2024, Москва, Россия

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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

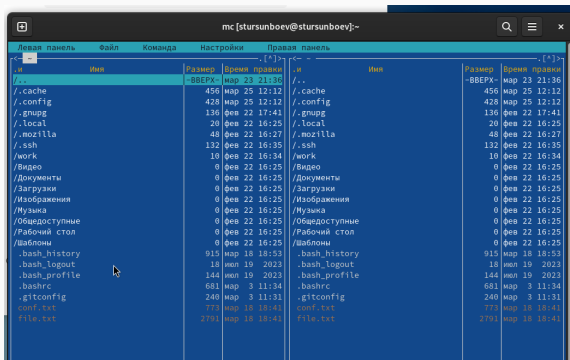


Рис. 1: Запуск mc

Работа с Midnight Commander

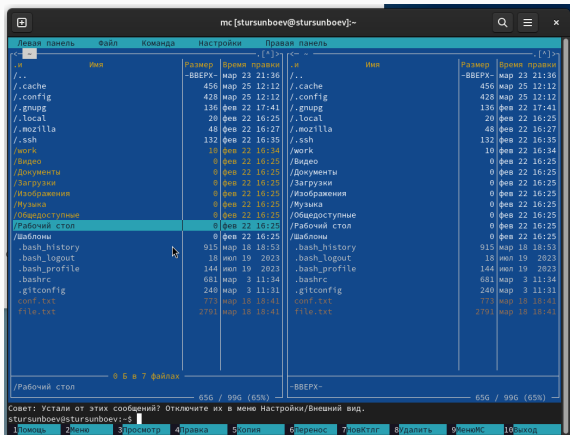


Рис. 2: Выделение

Работа с Midnight Commander

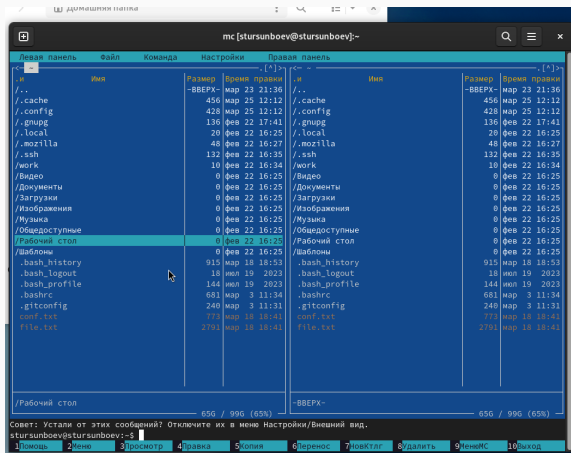


Рис. 3: Отмена

Работа с Midnight Commander

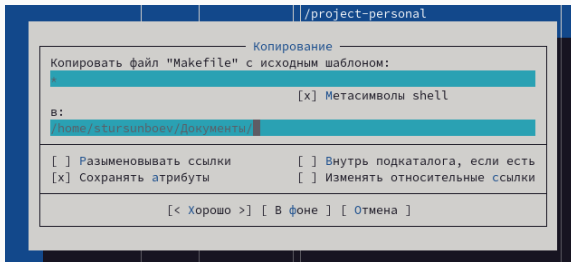


Рис. 4: Копирование

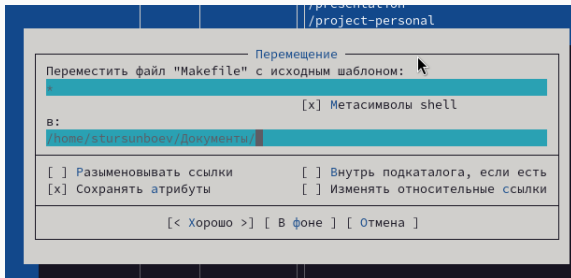


Рис. 5: Перемещение

Работа с Midnight Commander

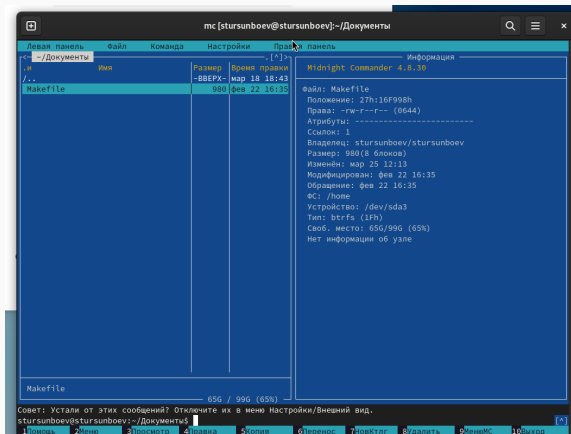


Рис. 6: Информация

Работа с Midnight Commander

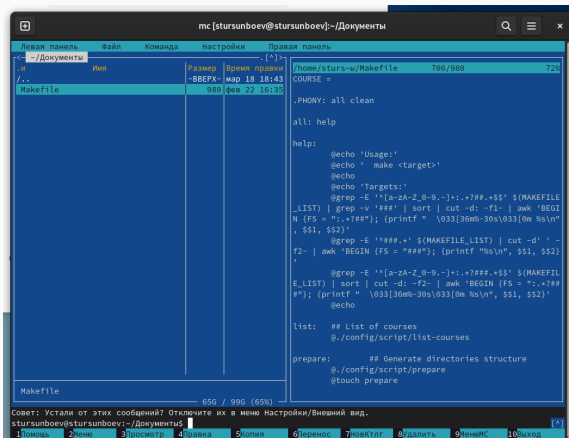


Рис. 7: Быстрый просмотр

Работа с Midnight Commander

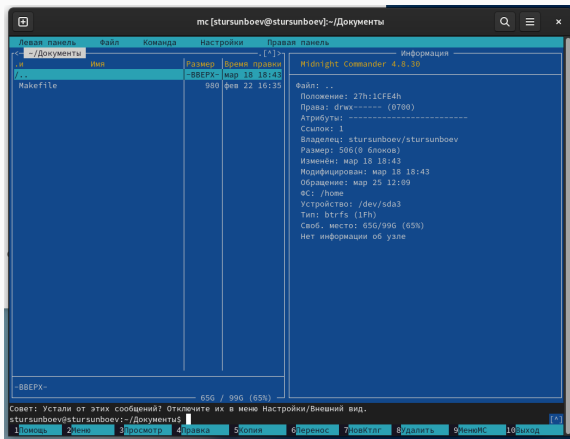


Рис. 8: Информация

Работа с Midnight Commander

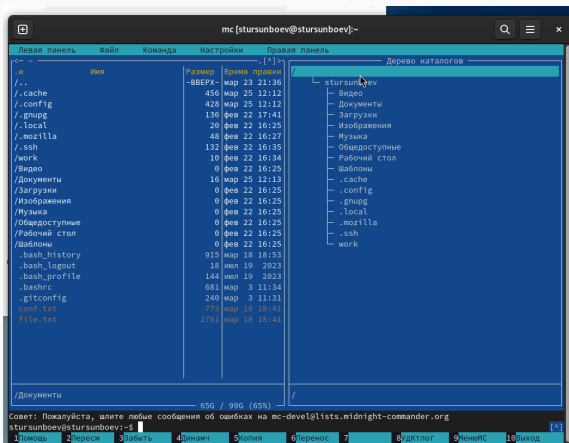
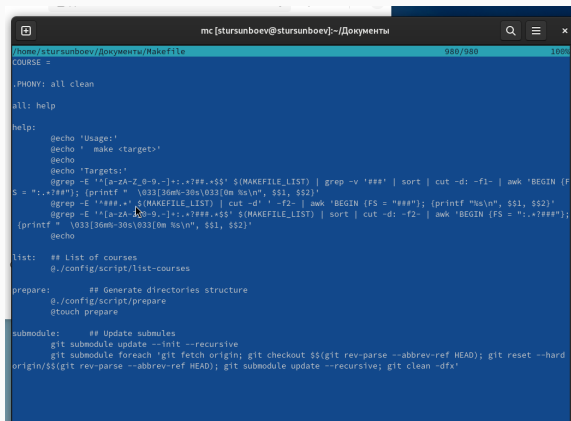


Рис. 9: Дерево каталогов

Работа с Midnight Commander

A screenshot of the Midnight Commander (mc) file manager interface. The title bar shows the user 'stursunboev@stursunboev' and the current directory '~/Документы'. The main window displays the contents of a file named 'Makefile' located at '/home/stursunboev/Документы/Makefile'. The file size is 980/980 bytes and it is 100% readable. The file content is a Makefile script with various targets and rules, including 'COURSE =', '.PHONY: all clean', 'all: help', 'help:', 'list: ## List of courses', 'prepare: ## Generate directories structure', and 'submodule: ## Update submodules'. The interface has a dark blue background with white text for the file content and a lighter blue header bar.

```
mc [stursunboev@stursunboev]:~/Документы
/home/stursunboev/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.-]+.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {F
S = ".*?###"}; {printf "  \033[36m-\033[0m %s\n", $$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-\033[0m %s\n", $$1, $$2}'
    @echo

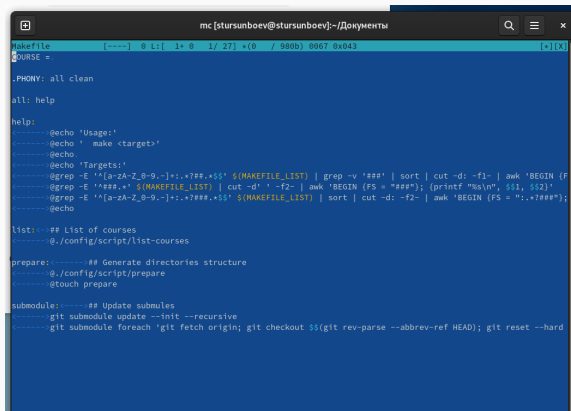
list:  ## List of courses
    @./config/script/list-courses

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



The screenshot shows a terminal window titled "mc [stursunboev@stursunboev]: ~/Документы". The window displays a Makefile being edited. The content of the Makefile 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-]*:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {F
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"; (printf "%s\n", $$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

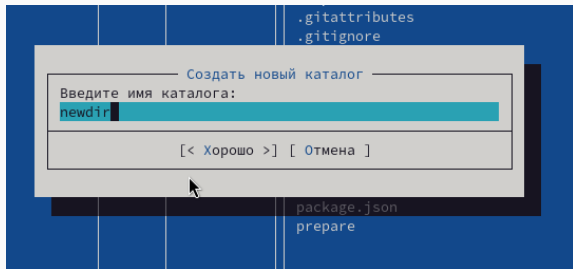


Рис. 12: Создание каталога

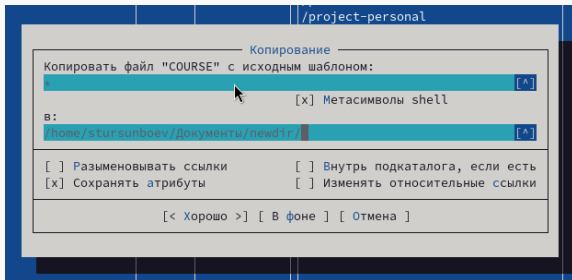


Рис. 13: Копирование в файлов в созданный каталог

Работа с Midnight Commander

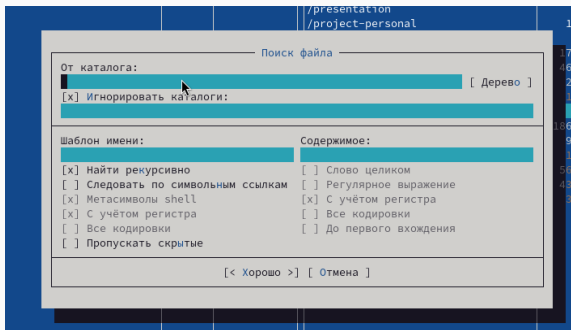


Рис. 14: Поиск файлов

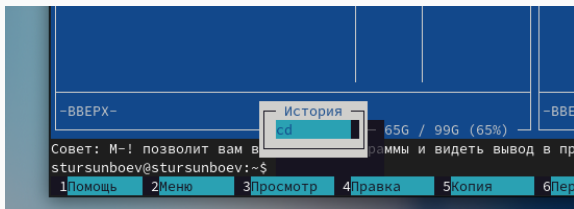


Рис. 15: История команд

Работа с Midnight Commander

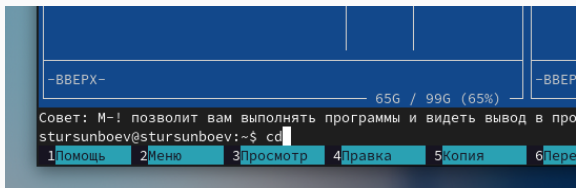


Рис. 16: Переход в домашний каталог

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: Переименовать 7: Поиск 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".

```
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
# %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
```

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



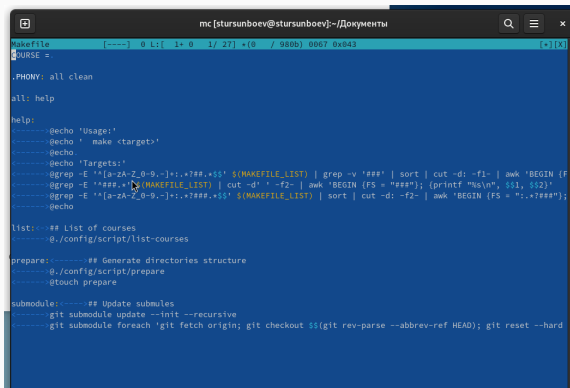
Рис. 24: Кодировка символов

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 'stursunboev' in the directory '~/Документы'. The file being edited is 'Makefile'. The text content of the file is as follows:

```
Makefile
# Makefile

# COURSE =

.PHONY: all clean

all: help

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

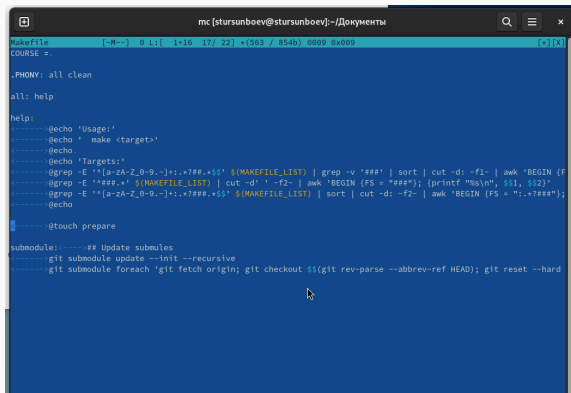
list:## List of courses
    @./config/script/list-courses

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) file editor interface. The title bar indicates the user is 'stursunboev' in the directory '~/Документы'. The editor is displaying a file named 'Makefile'. The status bar at the top shows file details: '[-M-] 0 L: [1+16 17/ 22] +(563 / 854b) 0009 0x009'. The main text area contains the following content:

```
Makefile
COURSE = .

.PHONY: all clean

all: help

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

-----@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. 27: Файл с текстом

Работа с редактором Midnight Commander

```
mc [stursunboev@stursunboev]:~/Документы
```

```
Makefile      [8M--]   0 L:    1+19   20/ 67) *610 /1559b) 0009 0x009  
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=" "}  
----->grep -E '[a-zA-Z_0-9.-]+:.*?##.##' $(MAKEFILE_LIST) | cut -d: -f2- | awk 'BEGIN {FS=" "}  
----->grep -E '[a-zA-Z_0-9.-]+:.*?##.##' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS=" "}; print "%s\n", $0, $2}'  
----->echo  
  
----->touch prepare  
  
submodule:<---->## Update submodules  
----->touch prepare  
  
submodule:<---->## Update submodules  
----->touch prepare  
  
submodule:<---->## Update submodules  
----->touch prepare  
  
submodule:<---->## Update submodules  
----->touch prepare  
  
submodule:<---->## Update submodules  
----->touch prepare  
  
submodule:<---->## Update submodules  
----->touch prepare  
  
submodule:<---->## Update submodules  
----->touch prepare  
  
1Помощь 2Сохранить 3Блок 4Замена 5Копия 6Пере-тить 7Поиск 8Удалить 9НеняМС 10Выход
```

Рис. 28: Копирование фрагмента

Работа с редактором Midnight Commander

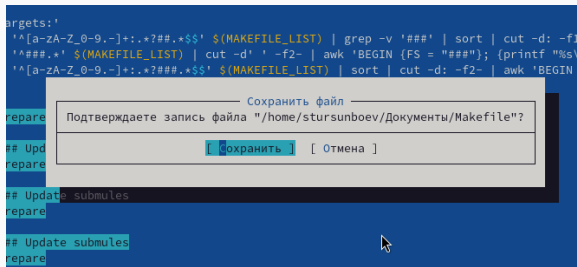


Рис. 29: Сохранение

Работа с редактором Midnight Commander

```
mc [stursunboev@stursunboev:~/Документы
Makefile [BH--] 0 L: [ 1+19 20/ 31] *(610 / 995b) 0009 0x0009 [X]
COURSE = .

.PHONY: all clean

all: help

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

+----->@touch prepare

submodule:<---->## Update submodules
+----->@touch prepare

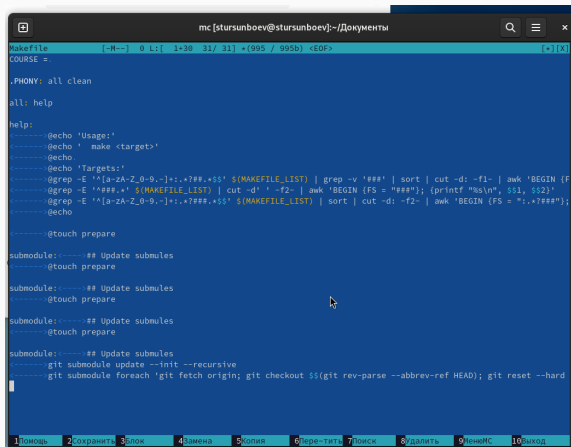
submodule:<---->## Update submodules
+----->@touch prepare

submodule:<---->## Update submodules
+----->@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. 30: Отмена

Работа с редактором Midnight Commander



```
mc [stursunboev@stursunboev]:~/Документы
Makefile  [-M--]  0 L: [ 1+30 31/ 31]  *(995 / 995b) <EOF>  [*] [X]
COURSE =

.PHONY: all clean

all: help

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

-----@touch prepare

submodule:-----## Update submules
-----@touch prepare

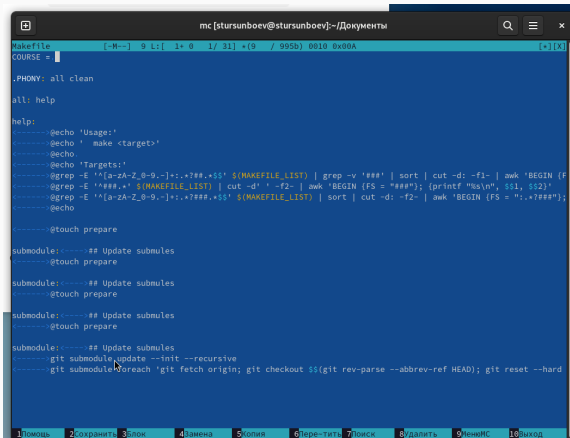
submodule:-----## Update submules
-----@touch prepare

submodule:-----## Update submules
-----@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. 31: Переход в конец файла

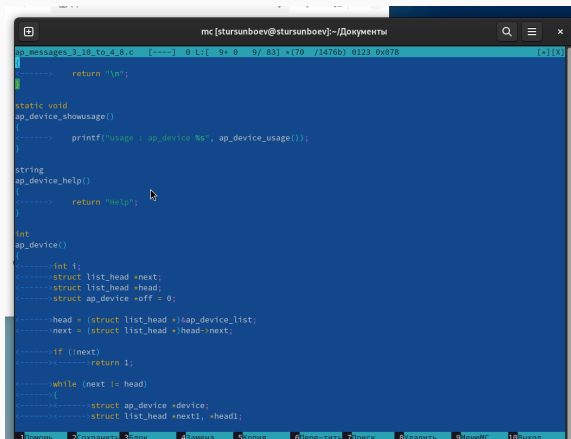
Работа с редактором Midnight Commander



```
mc [stursunboev@stursunboev]~/Документы
Makefile  [-M--]  9  Li[  1+  0  1/ 31]  +(9  / 995b) 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-]+.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {F
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"; (printf "%s\n", $$1, $$2)'
-----@grep -E '^[a-zA-Z_0-9-]+.*?##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = ":.*?##"};
-----@echo
-----@touch prepare
submodule:-----## Update submules
-----@touch prepare
submodule:-----## Update submules
-----@touch prepare
submodule:-----## Update submules
-----@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. 32: Переход в начало файла

Работа с редактором Midnight Commander



```
mc [stursunboev@stursunboev]:~/Документы
ap_messages_3_10_to_4_8.c [----] 0 L: [ 9* 0 9/ 83] *(70 /1476b) 0123 0x07B [*][X]

-----> return "\n";
}

static void
ap_device_showusage()
{
    -----> printf("usage : ap_device %s", ap_device_usage());
}

string
ap_device_help()
{
    -----> return "Help";
}

int
ap_device()
{
    -----> int i;
    -----> struct list_head *next;
    -----> struct list_head *head;
    -----> struct ap_device *off = 0;

    -----> head = (struct list_head *)ap_device_list;
    -----> next = (struct list_head *)head->next;

    -----> if (!next)
    -----> return 1;

    -----> while (next != head)
    -----> {
    -----> struct ap_device *device;
    -----> struct list_head *next1, *head1;
```

Рис. 33: Файл с программой

Работа с редактором Midnight Commander

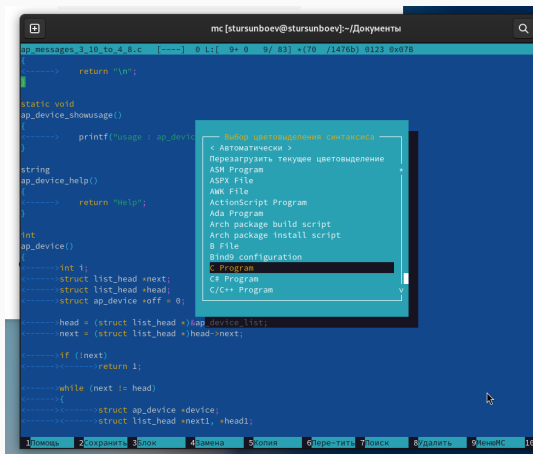


Рис. 34: Цветовыделение синтаксиса

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.