

Командная оболочка Midnight Commander

Плугин Никита¹

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¹Российский Университет Дружбы Народов

Цели и задачи работы

Цель лабораторной работы

Ознакомление с файловой системой Linux, её структурой, именами и содержанием каталогов. Приобретение практических навыков по применению команд для работы с файлами и каталогами, по управлению процессами, по проверке использования диска и обслуживанию файловой системы.

Задачи лабораторной работы

- 1 Изучить возможности Midnight Commander
- 2 Изучить редактор Midnight Commander

Процесс выполнения лабораторной работы

Работа с Midnight Commander

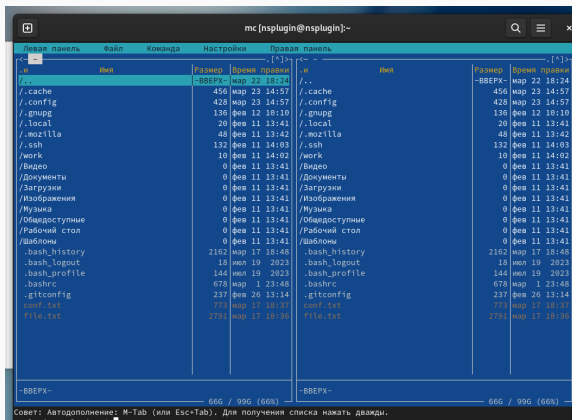


Рис. 1: Запуск mc

Работа с Midnight Commander

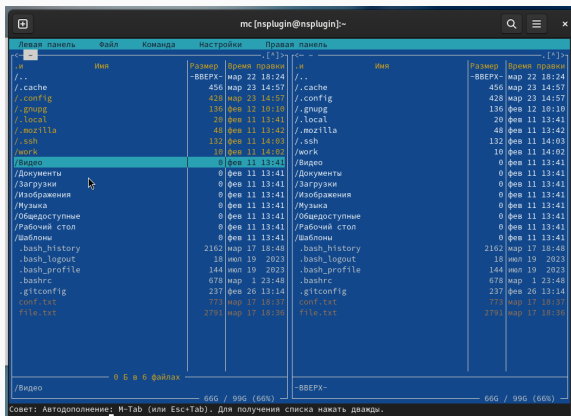


Рис. 2: Выделение

Работа с Midnight Commander

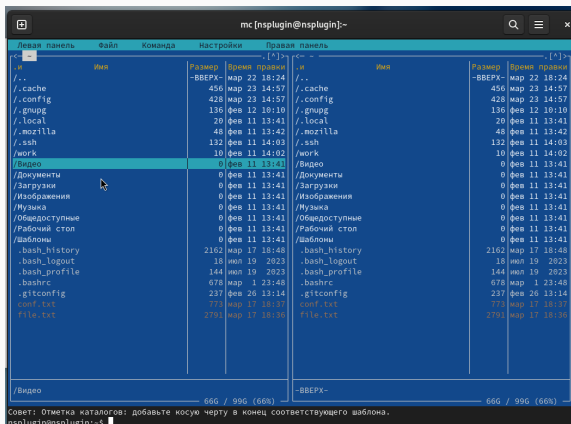


Рис. 3: Отмена

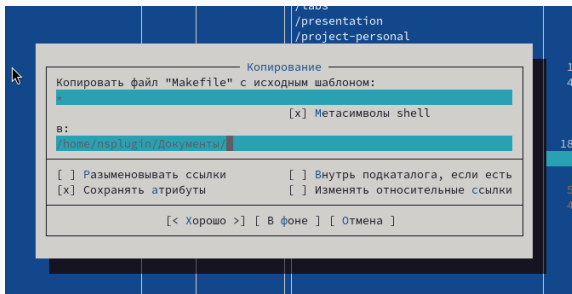


Рис. 4: Копирование

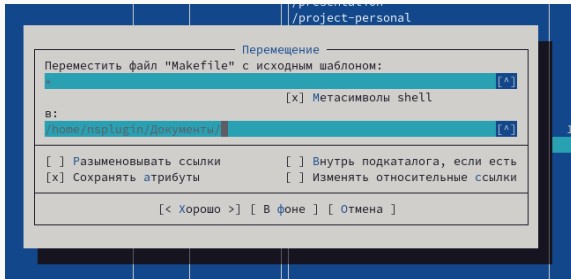


Рис. 5: Перемещение

Работа с Midnight Commander

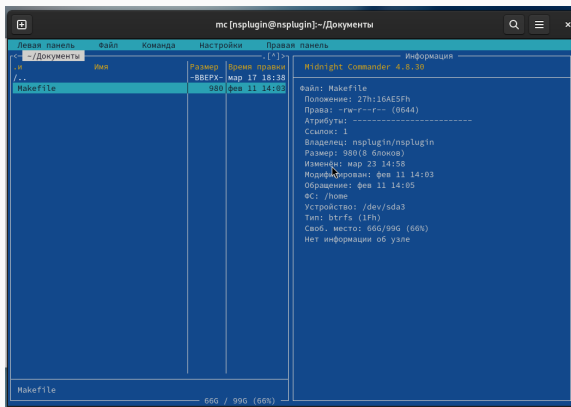


Рис. 6: Информация

Работа с Midnight Commander

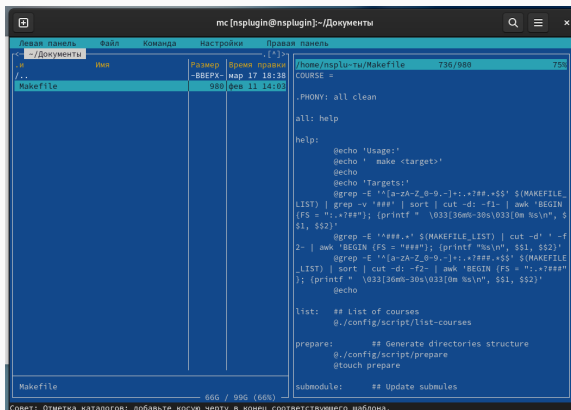


Рис. 7: Быстрый просмотр

Работа с Midnight Commander

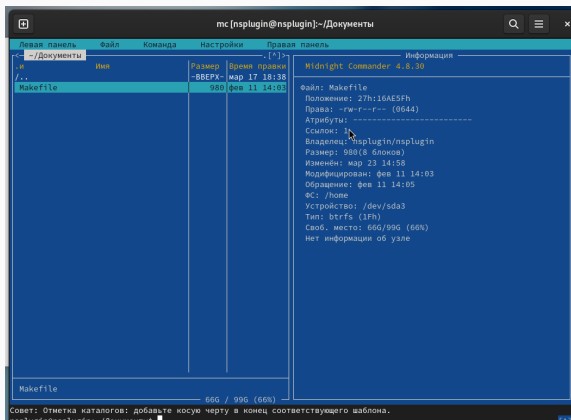


Рис. 8: Информация

Работа с Midnight Commander

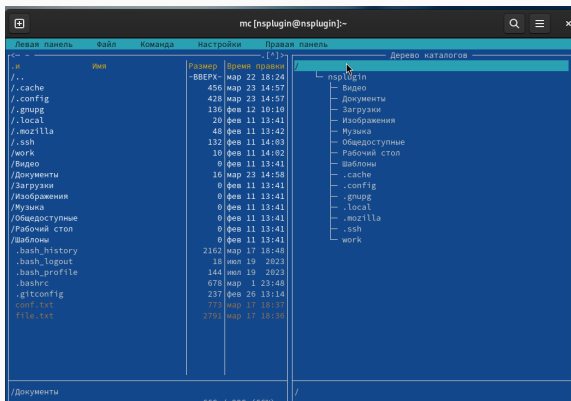
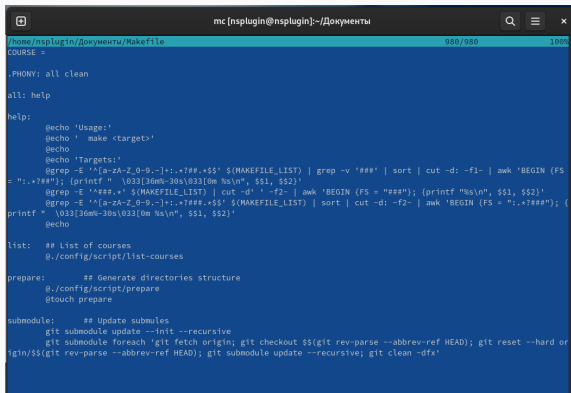


Рис. 9: Дерево каталогов

Работа с Midnight Commander



The screenshot shows a window of the Midnight Commander (mc) file manager. The title bar indicates the user is 'nsplugin@nsplugin' in the directory '~/Документы'. The current directory is '/home/nsplugin/Документы/Makefile', and the file size is 980/980 bytes, 100% full. The main pane displays the contents of the Makefile, which includes targets like 'COURSE =', '.PHONY: all clean', 'all: help', 'help:', 'list:', 'prepare:', and 'submodule:'. The 'help:' target contains complex shell commands using 'grep', 'sort', 'cut', 'awk', and 'printf' to process the Makefile list. The 'list:' target calls a script 'list-courses'. The 'prepare:' target calls 'prepare' and 'touch prepare'. The 'submodule:' target contains a series of 'git' commands for updating submodules.

```
mc [nsplugin@nsplugin] ~/Документы
/home/nsplugin/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-~]+?##+$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1 | awk 'BEGIN {FS
= ".*?##"; {printf " \033[36m%-30s\033[0m %s\n", $$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

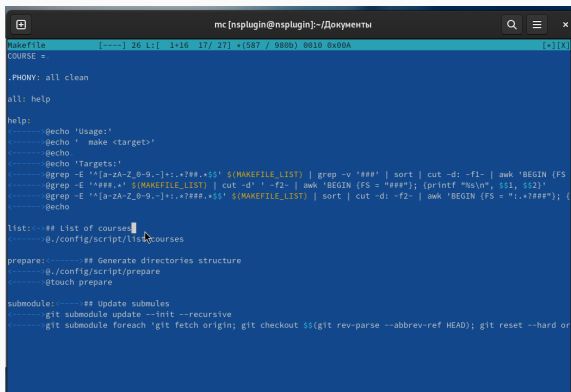
list: ## List of courses
    @./config/script/list-courses

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 $(git rev-parse --abbrev-ref HEAD); git reset --hard or
igin/$(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 [nsplugin@nsplugin]:~/Документы". The terminal displays the content of a Makefile, which includes a header line, a comment, a target, and several help sections. The help sections are: ".PHONY: all clean", "all: help", "help:", and "list:#### List of courses". The terminal also shows the output of the "list:" target, which lists the contents of the "courses" directory.

```
mc [nsplugin@nsplugin]:~/Документы
Makefile [-----] 26 L: [ 1+16 17/ 27] *(587 / 980b) 0010 0x00A [*](X)
COURSE = .

.PHONY: all clean

all: help

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

Рис. 11: Отредактируем содержимое текстового файла без сохранения результатов

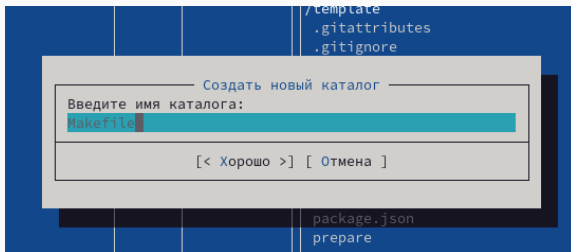


Рис. 12: Создание каталога

Работа с Midnight Commander

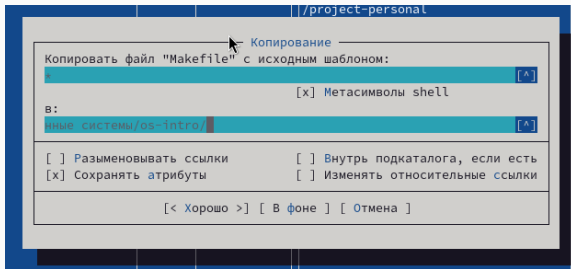


Рис. 13: Копирование в файлов в созданный каталог

Работа с Midnight Commander

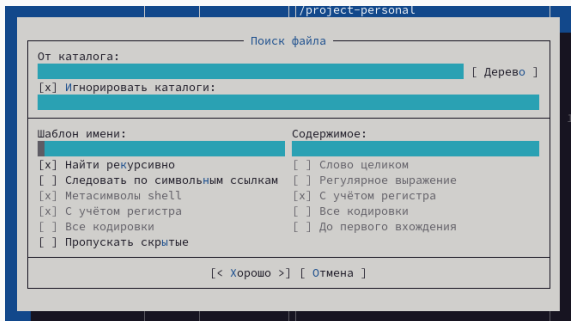


Рис. 14: Поиск файлов

Работа с Midnight Commander

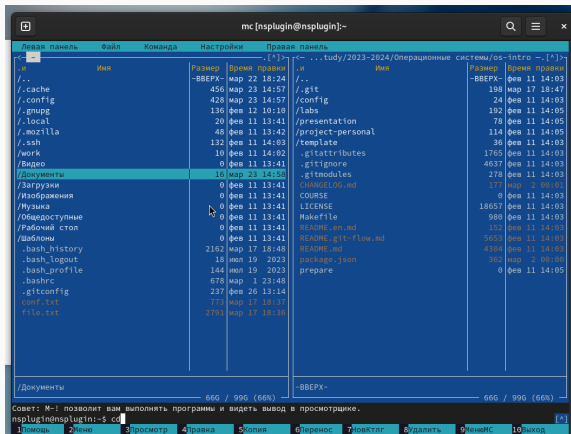


Рис. 16: Переход в домашний каталог

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: Перенести 7: Повтор 8: Удалить 9: НенаС 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 'l', recognize keywords", "ascii, hex, nroff and unform", "If the format letter is in uppercase, it refers to the other panel", "With a number followed the % character you can turn quoting on (default) and off. For example:", "f quote expanded macro", "f ditto", "f don't quote expanded macro", "#####", "t t Do something on the current file CMD=%(Enter command) SCMD %f", "t t Do something on the tagged files CMD=%(Enter command) for 1 in %t ; do", and a status bar at the bottom with 10 numbered buttons: 1: Помощь, 2: Сохранить, 3: Поиск, 4: Имена, 5: Скопия, 6: Перенести, 7: Повтор, 8: Удалить, 9: НенаС, 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)
# v view Runs the commands and pipes standard output to the view command
# If %view is immediately followed by 'l', recognize keywords
# ascii, hex, nroff and unform
#
# If the format letter is in uppercase, it refers to the other panel
#
# With a number followed the % character you can turn quoting on (default)
# and off. For example:
# %f quote expanded macro
# %f ditto
# %f don't quote expanded macro
#####

+ t t
| Do something on the current file
| CMD=%(Enter command)
| SCMD %f

+ t t
| Do something on the tagged files
| CMD=%(Enter command)
| for 1 in %t ; do

1: Помощь 2: Сохранить 3: Поиск 4: Имена 5: Скопия 6: Перенести 7: Повтор 8: Удалить 9: НенаС 10: Выход
```

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



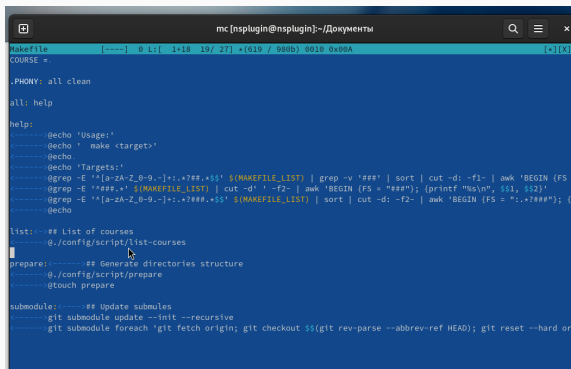
Рис. 24: Кодировка символов

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

```
Makefile
COURSE = .

.PHONY: all clean

all: help

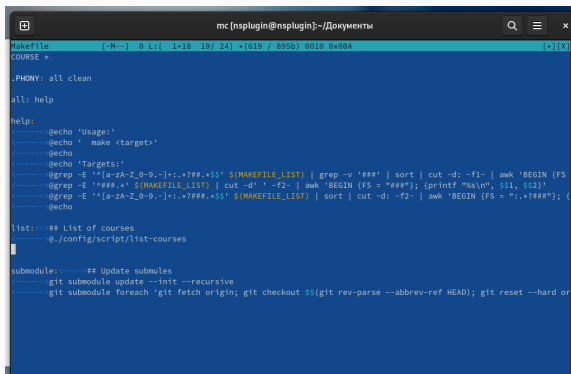
help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '[a-zA-Z_0-9-]+\.[?##.]*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {FS
-----@grep -E '####.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"; (printf "%s\n", $$1,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

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 [nsplugin@nsplugin]: ~/Документы'. The editor is displaying a file named 'Makefile'. The content of the file is as follows:

```
Makefile
COURSE = .

.PHONY: all clean

all: help

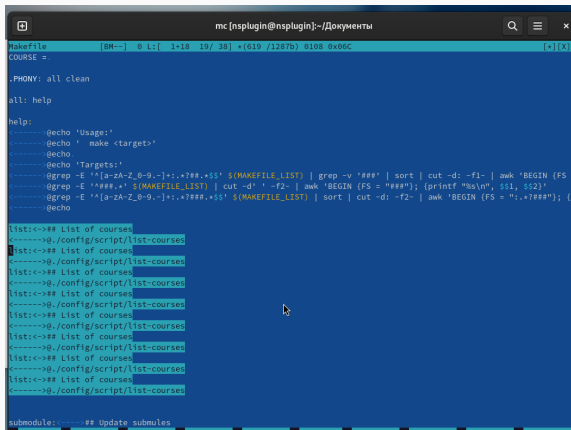
help:
-----@echo 'Usage:'
-----@echo '  make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '^[a-zA-Z_0-9-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {FS
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d: -f2- | awk 'BEGIN {FS = "###"; (printf "%s\n", $61, $62)'}
-----@grep -E '^[a-zA-Z_0-9-]+:.*?##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = "###"; (
-----@echo

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

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

Рис. 27: Файл с текстом

Работа с редактором Midnight Commander



```
mc [nsplugin@nsplugin]:~/Документы
Makefile [BH--] 0 L: [ 1+18 19/ 38] +(619 /1287b) 0108 0x06C [*)(X]
COURSE =
.PHONY: all clean
all: help
help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '[a-zA-Z_0-9-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {FS
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"; (printf "%s\n", $$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
list:<->## List of courses
<----->@./config/script/list-courses
list:<->## List of courses
<----->@./config/script/list-courses
list:<->## List of courses
<----->@./config/script/list-courses
list:<->## List of courses
<----->@./config/script/list-courses
list:<->## List of courses
<----->@./config/script/list-courses
list:<->## List of courses
<----->@./config/script/list-courses
list:<->## List of courses
<----->@./config/script/list-courses
submodules:<----->## Update submodules
```

Рис. 28: Копирование фрагмента

Работа с редактором Midnight Commander

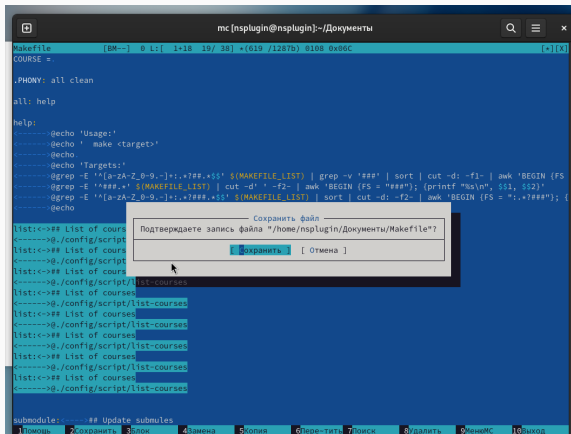


Рис. 29: Сохранение

Работа с редактором Midnight Commander

```
mc [nsplugin@nsplugin] ~/Документы

Makefile  [BM--]  0 L[ 1+18 19/ 30] +(619 /1863b) 0108 0x06C
COURSE =

.PHONY: all clean

all: help

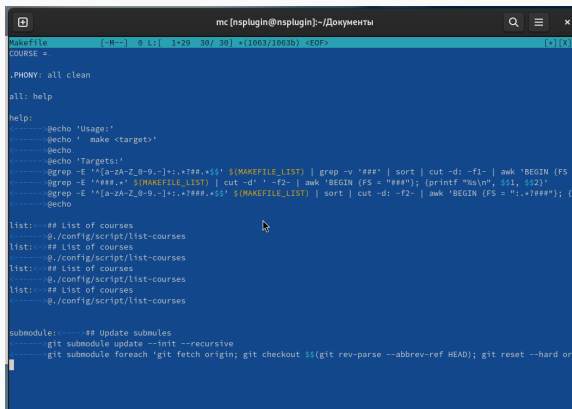
help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '[a-zA-Z_0-9-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {FS
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"; (printf "%s\n", $$1,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

list-courses->## List of courses
list-courses->@./config/script/list-courses
list-courses->## List of courses
list-courses->@./config/script/list-courses
list-courses->## List of courses
list-courses->@./config/script/list-courses
list-courses->## List of courses
list-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 --hard or
```

Рис. 30: Отмена

Работа с редактором Midnight Commander



```
mc [nsplugin@nsplugin] ~/Документы
Makefile [-M-] 0 Li[ 1+29 30/ 30] +(1063/1063b) <EOF>
COURSE =

.PHONY: all clean

all: help

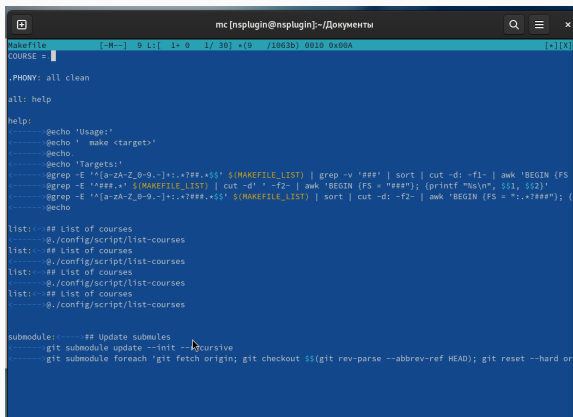
help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '^([a-zA-Z_0-9-]+):.*?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {FS
-----@grep -E '^###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"; (printf "%s\n", $$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
list:~## List of courses
-----@./config/script/list-courses
list:~## List of courses
-----@./config/script/list-courses
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 --hard or
```

Рис. 31: Переход в конец файла

Работа с редактором Midnight Commander



```
mc [nsplugin@nsplugin]~/Документы
Makefile  [-M--]  9 L:  1+ 0  1/ 30  +{0  /1063b) 0010 0x00A  [*][X]
COURSE =

,PHONY: all clean

all: help

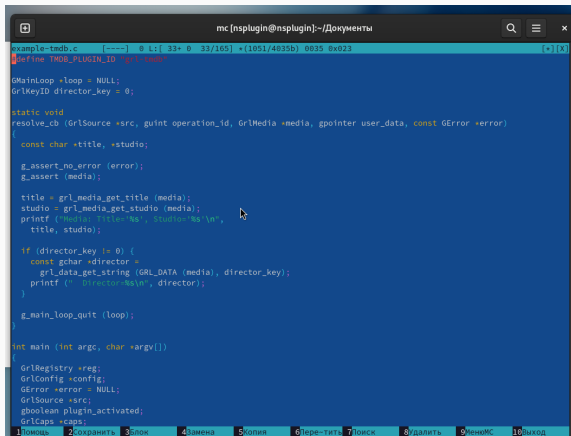
help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo.
-----@echo 'Targets:'
-----@grep -E '[a-zA-Z_0-9-]+\.[?##.*$$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {FS
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"; (printf "%s\n", $$1,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

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

Рис. 32: Переход в начало файла

Работа с редактором Midnight Commander



```
mc [nsplugin@nsplugin]:~/Документы
example-tmdb.c  [----]  0 L: [ 33+ 0 33/105] +{1051/4035b} 0035 0x023 (*) [X]
#define TMDB_PLUGIN_ID "gri-tmdb"

GMainLoop *loop = NULL;
GrlKeyID director_key = 0;

static void
resolve_cb (GrlSource *src, guint operation_id, GrlMedia *media, gpointer user_data, const GError *error)
{
    const char *title, *studio;

    g_assert_no_error (error);
    g_assert (media);

    title = grl_media_get_title (media);
    studio = grl_media_get_studio (media);
    printf ("Media: title=\"%s\", studio=\"%s\"\n",
           title, studio);

    if (director_key != 0) {
        const gchar *director =
            grl_data_get_string (GRL_DATA (media), director_key);
        printf ("Director=\"%s\"\n", director);
    }

    g_main_loop_quit (loop);
}

int main (int argc, char *argv[])
{
    GrlRegistry *reg;
    GrlConfig *config;
    GError *error = NULL;
    GrlSource *src;
    gboolean plugin_activated;
    GrlCaps *caps;
```

Рис. 33: Файл с программой

Работа с редактором Midnight Commander

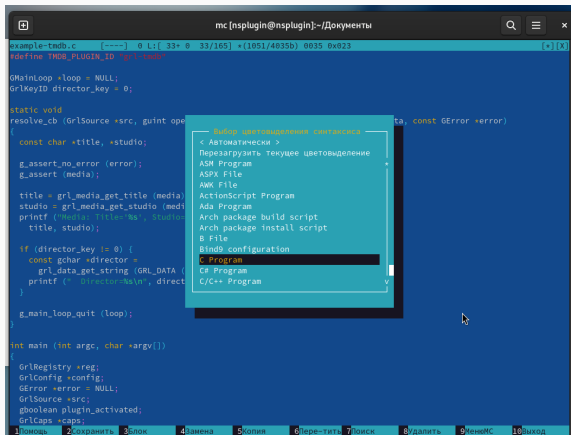


Рис. 34: Цветовыделение синтаксиса

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.