

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

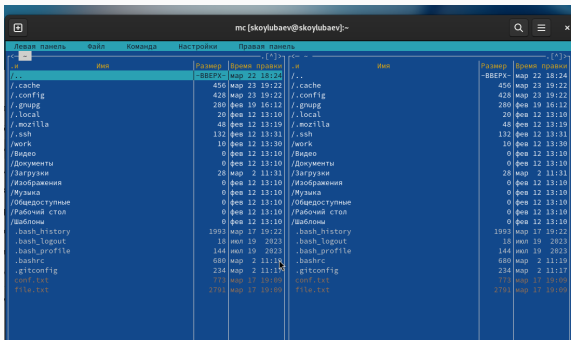


Рис. 1: Запуск ms

Работа с Midnight Commander

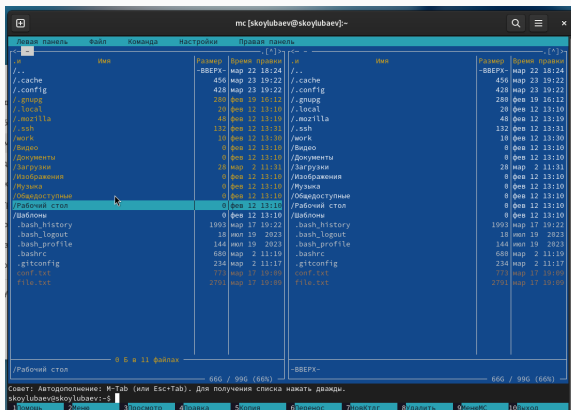


Рис. 2: Выделение

Работа с Midnight Commander

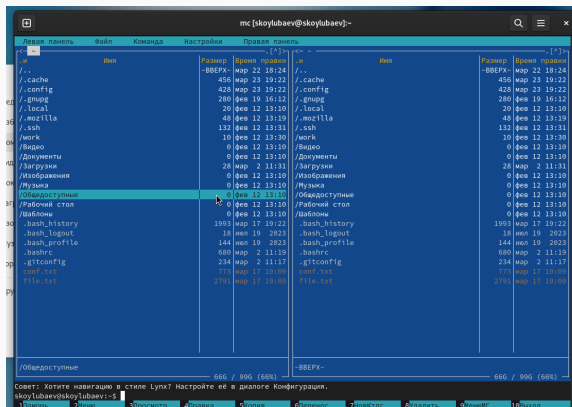


Рис. 3: Отмена

Работа с Midnight Commander

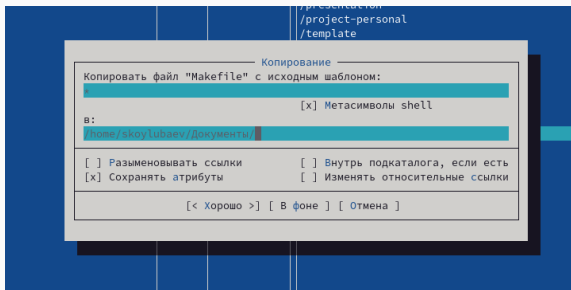


Рис. 4: Копирование

Работа с Midnight Commander

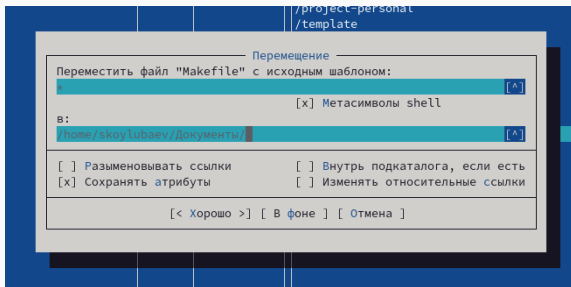


Рис. 5: Перемещение

Работа с Midnight Commander

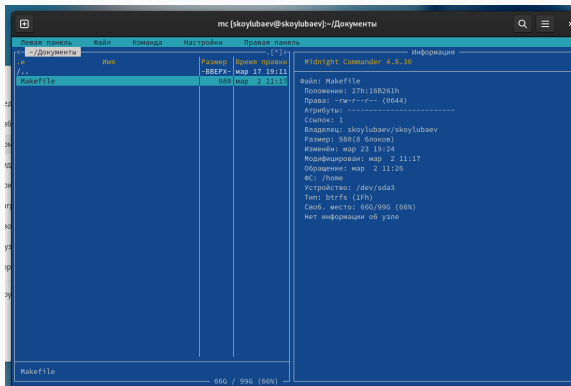


Рис. 6: Информация

Работа с Midnight Commander

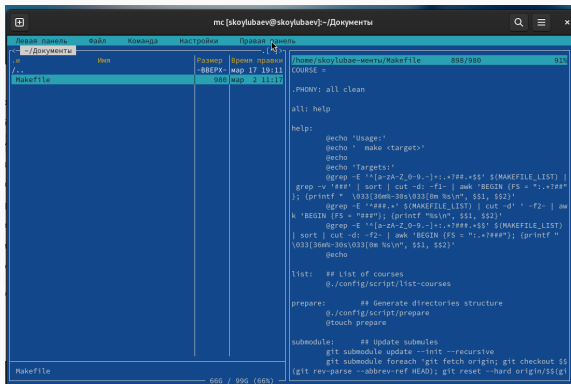


Рис. 7: Быстрый просмотр

Работа с Midnight Commander

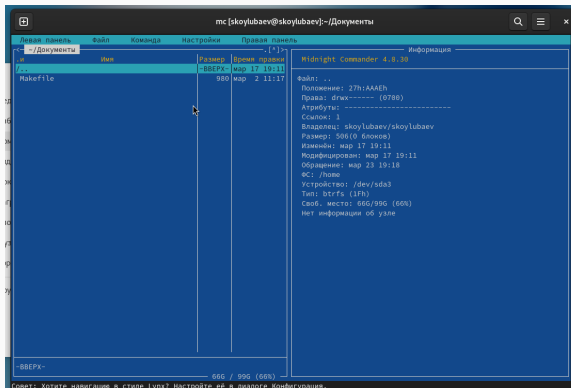


Рис. 8: Информация

Работа с Midnight Commander

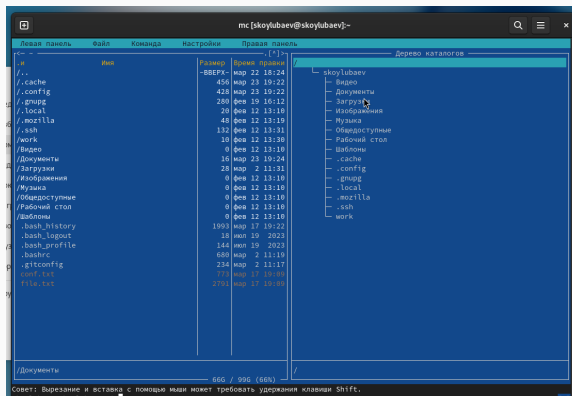
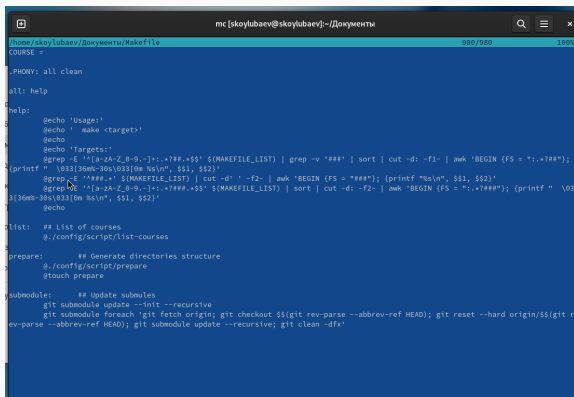


Рис. 9: Дерево каталогов

Работа с Midnight Commander

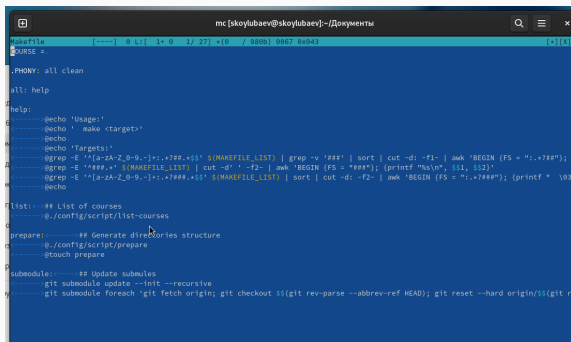


The screenshot shows the Midnight Commander (mc) interface. The title bar indicates the user is 'skoylubaev@skoylubaev' in the directory '~/Документы'. The main window displays the contents of a file named 'Makefile' located at '/home/skoylubaev/Документы/Makefile'. The file content is a Makefile script for managing a project with submodules. It includes sections for help, list, prepare, and submodule management. The 'list' section lists courses from a config file. The 'prepare' section generates directory structures. The 'submodule' section updates submodules recursively, fetching from origin, checking out specific revisions, resetting to the origin, and cleaning up.

```
mc [skoylubaev@skoylubaev:~/Документы]
/home/skoylubaev/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 " \03
    3[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 r
    ev-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 [skoylubaev@skoylubaev] ~/Документы". The terminal displays the content of a file named "Makefile". The file content includes a "course" variable, a ".PHONY" declaration, a "help" target, and several complex targets using shell commands like "grep", "sort", "cut", and "awk" to process a list of courses. The terminal has a dark blue background with white text. The window title bar shows the user's name and the current directory.

```
Makefile [-----] 0 L: [ 1+ 0 1/ 27] +[0 / 980b] 0867 8x043 [*)(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", $51, $52}'
#####@grep -E '^[a-zA-Z_0-9-]*:.*?##.###' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = ".*?##"}; {printf " %03
#####@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 r
```

Рис. 11: Отредактируем содержимое текстового файла без сохранения результатов

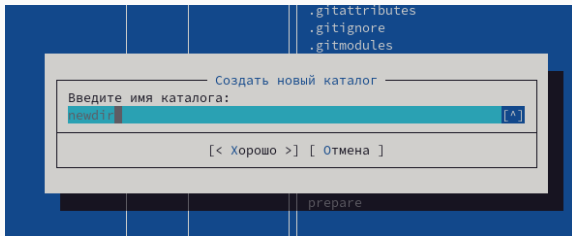


Рис. 12: Создание каталога

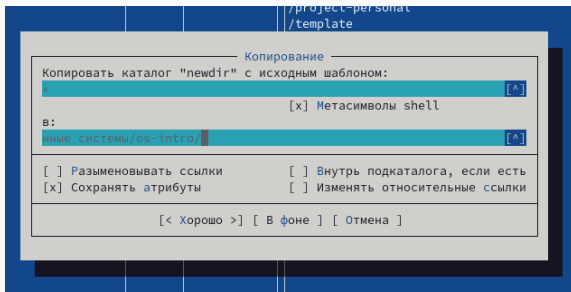


Рис. 13: Копирование в файлов в созданный каталог

Работа с Midnight Commander

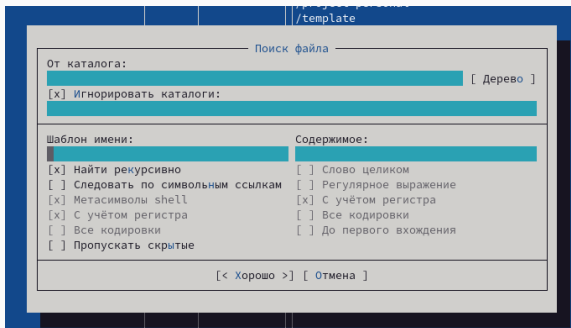


Рис. 14: Поиск файлов

Работа с Midnight Commander

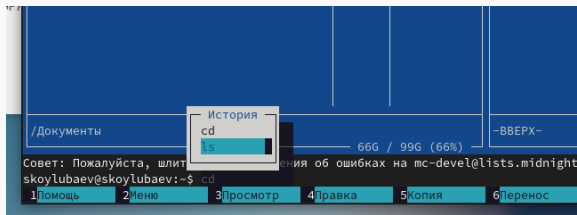


Рис. 15: История команд

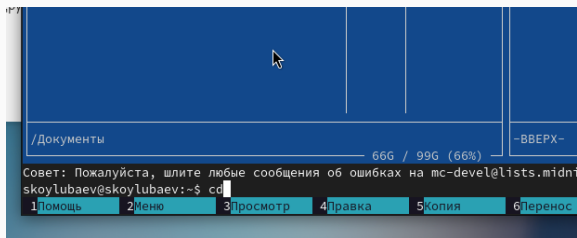


Рис. 16: Переход в домашний каталог

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: Скопировать 6: Перенести 7: Повторить 8: Удалить 9: Найти 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

#####
# F% 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 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

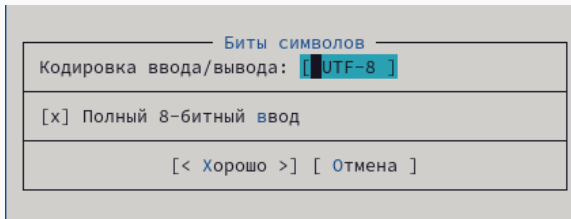


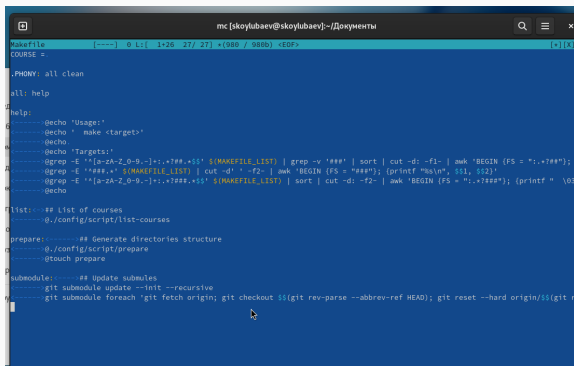
Рис. 24: Кодировка символов

Работа с Midnight Commander



Рис. 25: Распознавание клавиш

Работа с редактором Midnight Commander



The screenshot shows the Midnight Commander (mc) file editor interface. The title bar indicates the user is 'skoylubaev@skoylubaev' in the directory '~/Документы'. The editor is displaying a file named 'Makefile'. The status bar at the top shows file details: '0 L: 1+26 27/ 27 |*(988 / 988b) <EDF>'. The file content is a Makefile with the following visible text:

```
Makefile
COURSE =

.PHONY: all clean

all: help

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

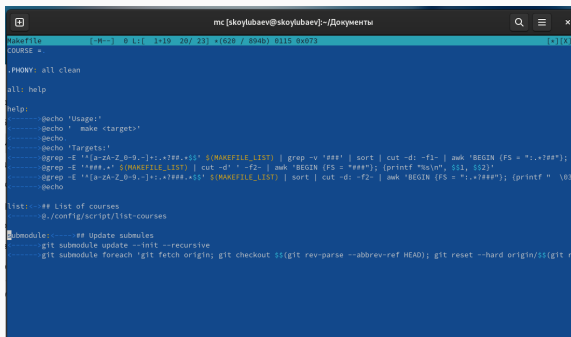
list:##### List of courses
#####@./config/script/list-courses

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 r
```

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 'skoylubaev' in the directory '~/Документы'. The file being edited is 'makefile', which is 0 lines long, 20/23 columns wide, and 620/894b in size. The file content is as follows:

```
makefile
COURSE =

.PHONY: all clean

all: help

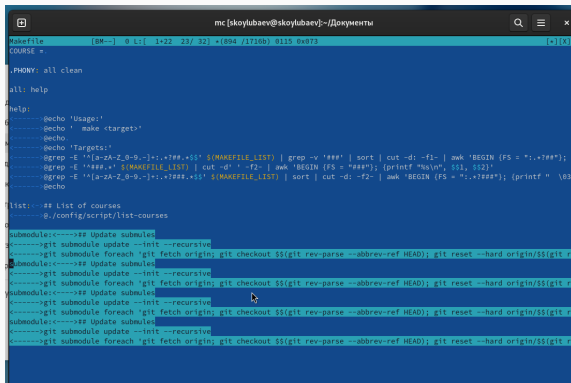
help:
#####@echo 'Usage:'
#####@echo ' make <target>'
#####@echo
#####@echo 'Targets:'
#####@grep -E '^[a-zA-Z_0-9.-]+:.*?##.##.##' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {FS = ".*?##.##"};
#####@grep -E '###.##.' $(MAKEFILE_LIST) | cut -d' ' -f2- | awk 'BEGIN {FS = "###"}; {printf "%s\n", $$1, $$2}';
#####@grep -E '^[a-zA-Z_0-9.-]+:.*?##.##.##' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = ".*?##.##"}; {printf " \03
#####@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 origin/$(git r
```

Рис. 27: Файл с текстом

Работа с редактором Midnight Commander



```
mc [skoylubae@skoylubae] ~/Документы
Makefile [BW-] 0 L: 1+22 23/ 32) +(894 /1726b) 0115 6x073 [*)[X]
COURSE =

.PHONY: all clean

all: help

help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@egrep -E '^[a-zA-Z_0-9-]+:.*?##.*$$' $(MAKEFILE_LIST) | grep -v '##' | sort | cut -d: -f1 | awk 'BEGIN {FS = ".*?##"};
-----@egrep -E '##.*$$' $(MAKEFILE_LIST) | cut -d: -f2- | awk 'BEGIN {FS = "##"}; {printf "%s\n", $0, $2}'
-----@egrep -E '^[a-zA-Z_0-9-]+:.*?##.*$$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = ".*?##"}; {printf " \b3
-----@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 $$git rev-parse --abbrev-ref HEAD; git reset --hard origin/$(git r
submodule:--## Update submodules
-----@git submodule update --init --recursive
-----@git submodule foreach 'git fetch origin; git checkout $$git rev-parse --abbrev-ref HEAD; git reset --hard origin/$(git r
submodule:--## Update submodules
-----@git submodule update --init --recursive
-----@git submodule foreach 'git fetch origin; git checkout $$git rev-parse --abbrev-ref HEAD; git reset --hard origin/$(git r
submodule:--## Update submodules
-----@git submodule update --init --recursive
-----@git submodule foreach 'git fetch origin; git checkout $$git rev-parse --abbrev-ref HEAD; git reset --hard origin/$(git r
```

Рис. 28: Копирование фрагмента

Работа с редактором Midnight Commander

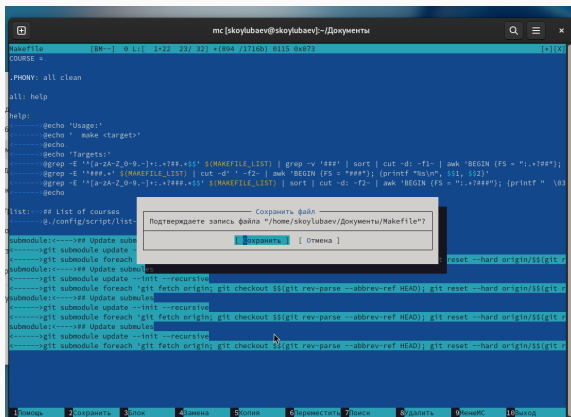
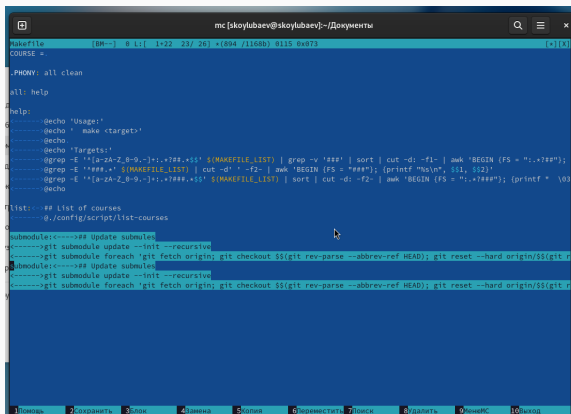


Рис. 29: Сохранение

Работа с редактором Midnight Commander

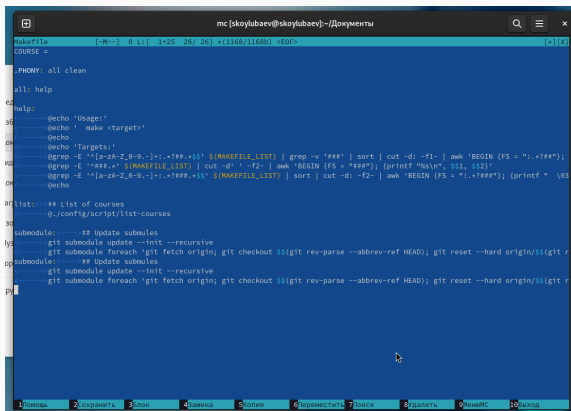


The screenshot shows the Midnight Commander (mc) interface. The top bar displays the user 'skoylubaev@skoylubaev' and the current directory 'Документы'. The main window shows a file named 'Makefile' with a size of 8 Li and a date of 1+22 23/ 26. The file content is visible, showing a Makefile with targets like 'all: clean', 'help', and 'list:'. The bottom bar contains a menu with 10 items: 1.Помощь, 2.Сохранить, 3.Блок, 4.Данная, 5.Копия, 6.Переместить, 7.Помок, 8.Удалить, 9.Меню, 10.Код.

```
mc [skoylubaev@skoylubaev]~/Документы
Makefile [BW~] 8 Li 1+22 23/ 26 + (894 /1168b) 8115 6x073
COURSE = .
.PHONY: all clean
all: help
help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '[a-zA-Z_0-9-~]+\.x?x?x?x?x?' $(MAKEFILE_LIST) | grep -v '##' | sort | cut -d: -f1- | awk 'BEGIN {FS = ".*x?x?x?x?";}
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d: -f2- | awk 'BEGIN {FS = "###";} {printf "%s\n", $1, $2}'
-----@grep -E '[a-zA-Z_0-9-~]+\.x?x?x?x?x?' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = ".*x?x?x?x?";} {printf "%s\n", $1, $2}'
-----@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 $(git rev-parse --abbrev-ref HEAD); git reset --hard origin/$(git rev-parse --abbrev-ref HEAD)'
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 foreach 'git fetch origin; git checkout $(git rev-parse --abbrev-ref HEAD); git reset --hard origin/$(git rev-parse --abbrev-ref HEAD)'
```

Рис. 30: Отмена

Работа с редактором Midnight Commander



```
mc [skoylubaev@skoylubaev:~/Документы]
Makefile [-M--] 8 L: 1+25 26/ 26) x(1168/1168) <EOF> [*](X)
COURSE =

.PHONY: all clean

all: help

help:
-----@echo 'Usage:'
-----@echo ' make <target>'
-----@echo
-----@echo 'Targets:'
-----@grep -E '[a-zA-Z_0-9-]+\.[a-z]*.s$' $(MAKEFILE_LIST) | grep -v '###' | sort | cut -d: -f1- | awk 'BEGIN {FS = ":[a-z]*.s$"};
-----@grep -E '###.*' $(MAKEFILE_LIST) | cut -d: -f2- | awk 'BEGIN {FS = "###"}; {printf "%s\n", $1, $2}'
-----@grep -E '[a-zA-Z_0-9-]+\.[a-z]*.s$' $(MAKEFILE_LIST) | sort | cut -d: -f2- | awk 'BEGIN {FS = ":[a-z]*.s$"}; {printf " \03
-----@echo

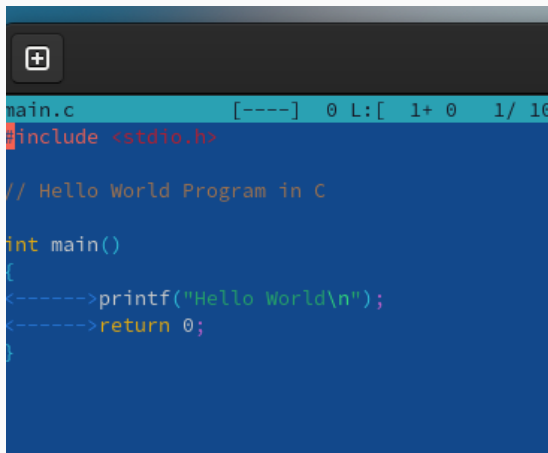
list:--## List of courses
-----0./config/script/list-courses

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

1Помощь 2Сохранить 3Блок 4Замена 5Копия 6Перенести 7Поиск 8Удалить 9Меню 10Выход
```

Рис. 31: Переход в конец файла

Работа с редактором Midnight Commander



The image shows a window of the Midnight Commander text editor. The title bar at the top is dark with a small icon on the left. Below the title bar, the editor's status line shows the filename 'main.c' on the left and some system information '[----] 0 L:[1+ 0 1/ 10' on the right. The main editing area has a dark blue background and displays the following C code:

```
#include <stdio.h>

// Hello World Program in C

int main()
{
<----->printf("Hello World\n");
<----->return 0;
}
```

Рис. 33: Файл с программой

Работа с редактором Midnight Commander

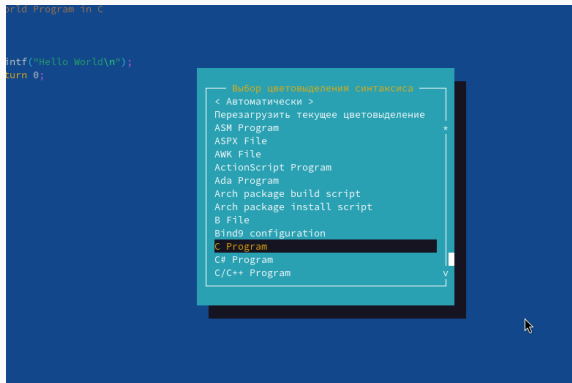


Рис. 34: Цветовыделение синтаксиса

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.