

Операционные системы

Командная оболочка Midnight Commander

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Цели и задачи 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.

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

Процесс выполнения лабораторной работы

Работа с Midnight Commander

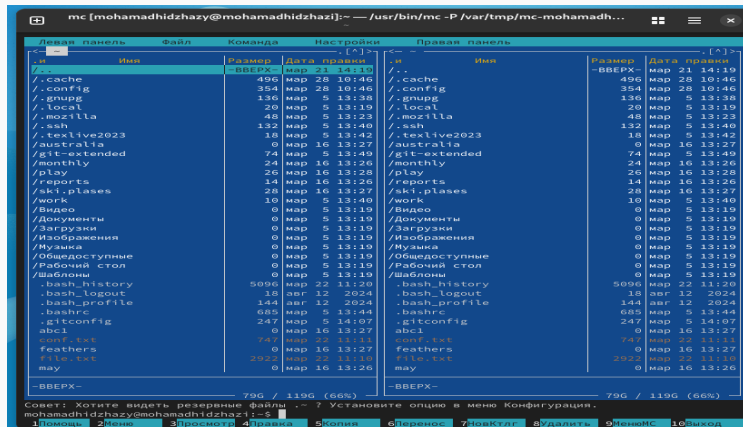


Рис. 1: Запуск mc

Работа с Midnight Commander

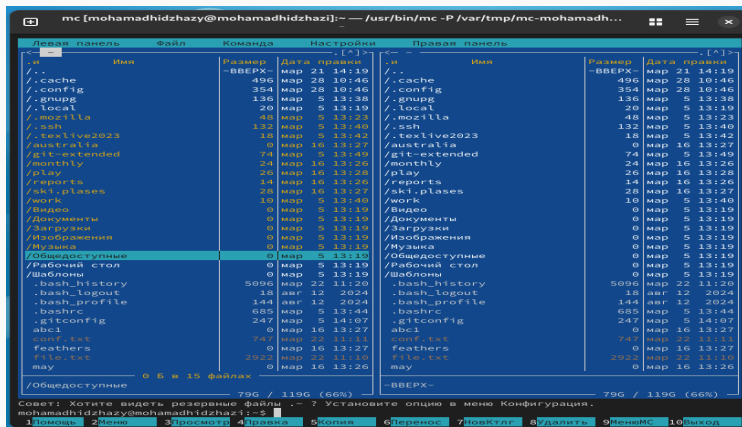


Рис. 2: Выделение

Работа с Midnight Commander

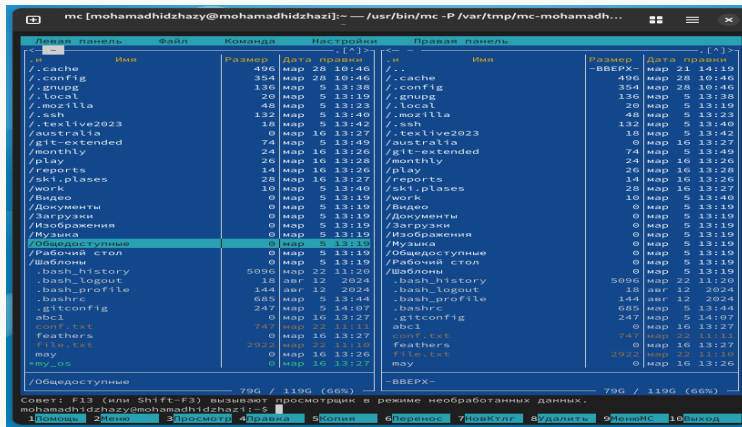


Рис. 3: Отмена

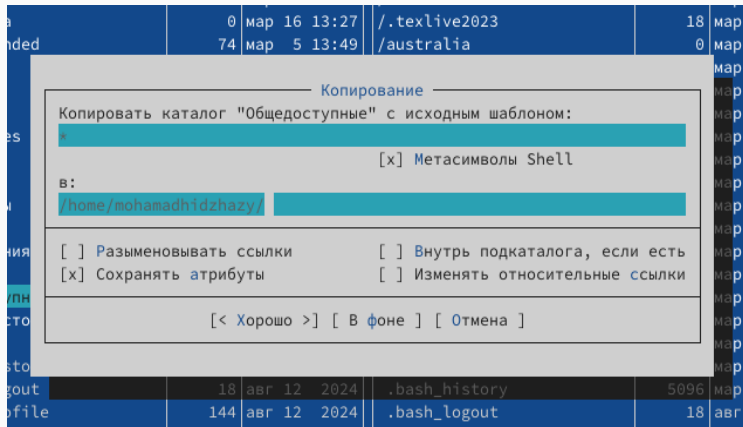


Рис. 4: Копирование

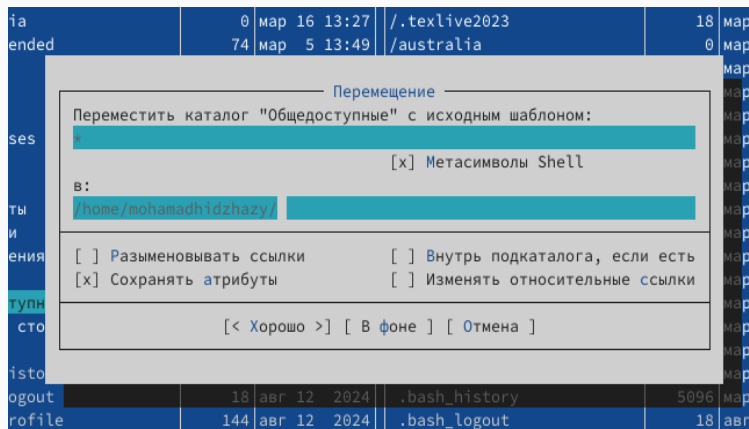


Рис. 5: Перемещение

Работа с Midnight Commander

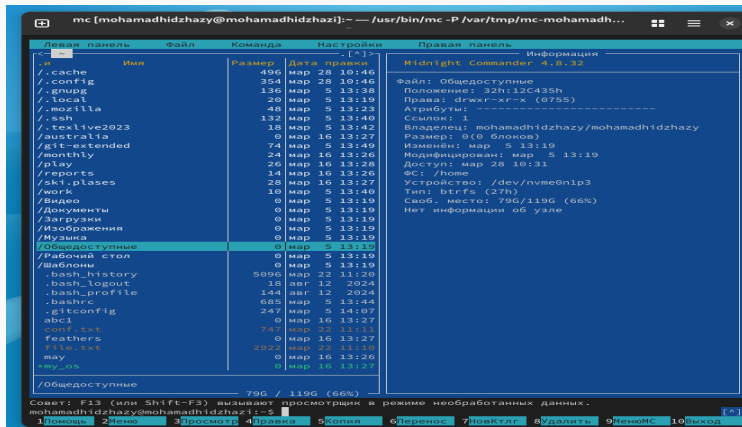


Рис. 6: Информация

Работа с Midnight Commander

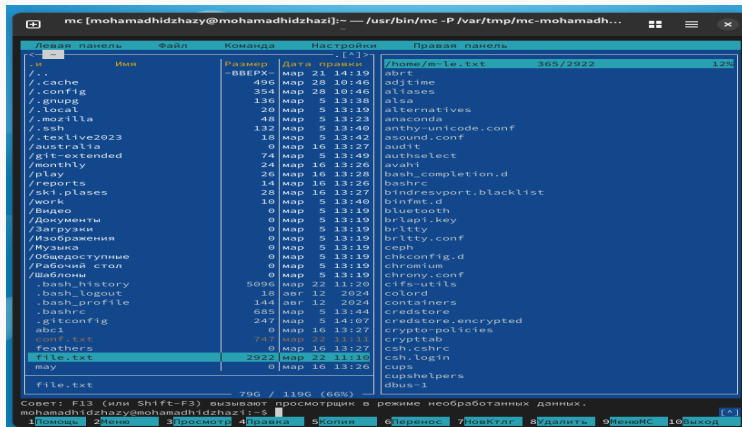


Рис. 7: Быстрый просмотр

Работа с Midnight Commander

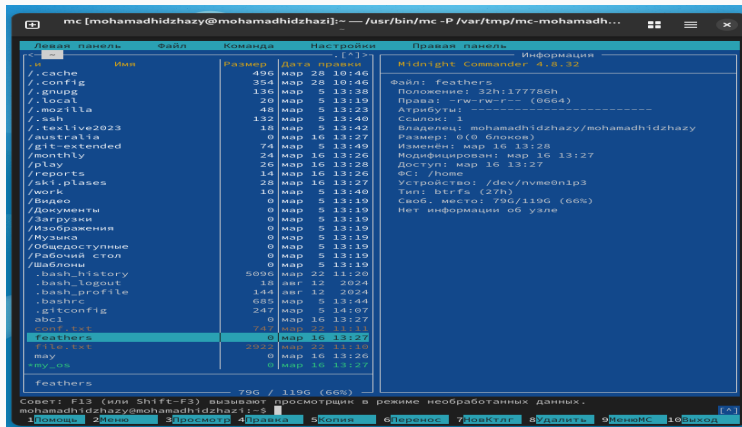


Рис. 8: Информация

Работа с Midnight Commander

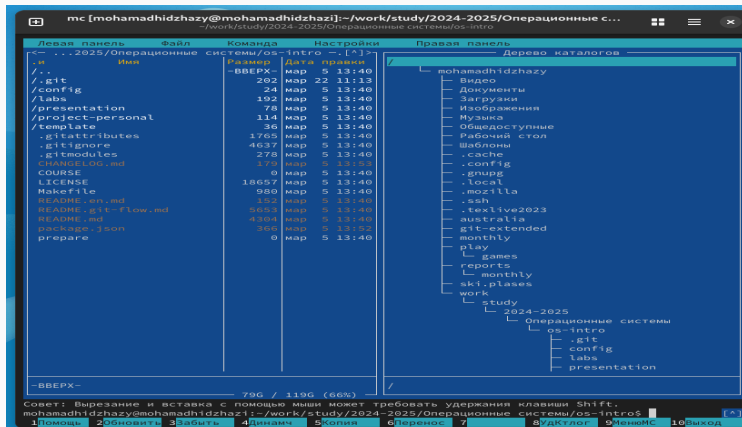
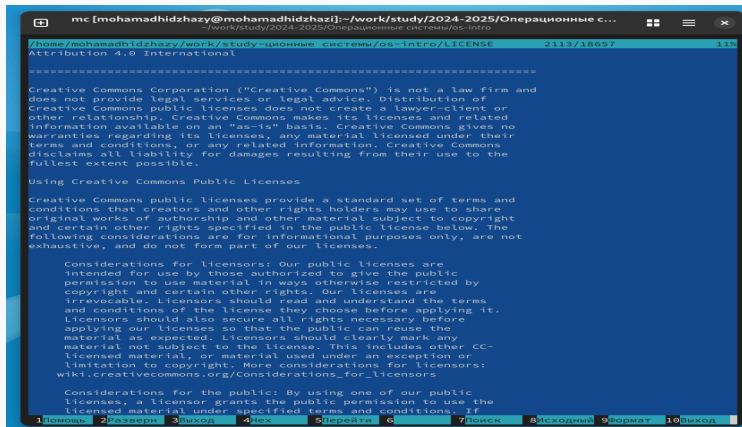


Рис. 9: Дерево каталогов

Работа с Midnight Commander



The screenshot shows the Midnight Commander (mc) interface. The title bar indicates the user is 'mohamadhidzhazy' and the current directory is '/work/study/2024-2025/Операционные системы/os-intro'. The main window displays the contents of the file '/home/mohamadhidzhazy/work/study-ционные системы/os-intro/LICENSE'. The file is 2113/18657 bytes in size. The content of the LICENSE file is displayed in a monospaced font. At the bottom of the window, there is a status bar with various icons and a row of numbered buttons: 1.Помощь, 2.Разверн, 3.Выход, 4.Нех, 5.Перейти, 6., 7.Поиск, 8.Исходный, 9.Формат, 10.Выход.

```
mc [mohamadhidzhazy@mohamadhidzhazy]:~/work/study/2024-2025/Операционные с...
~/work/study/2024-2025/Операционные системы/os-intro

/home/mohamadhidzhazy/work/study-ционные системы/os-intro/LICENSE 2113/18657 11%
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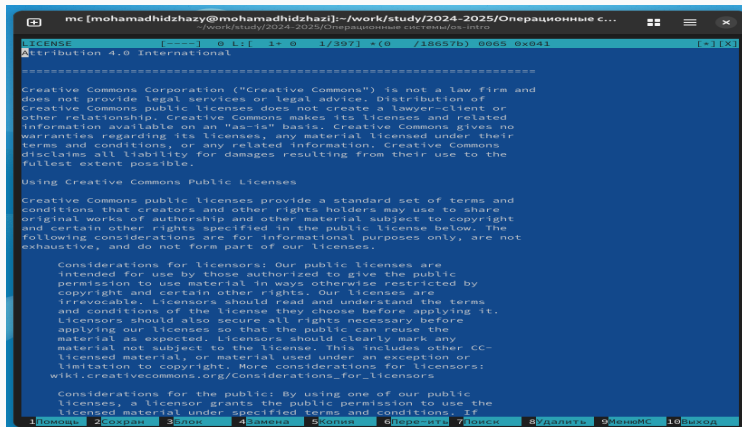
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```

Рис. 10: Просмотр содержимого текстового файла

Работа с Midnight Commander



```
mc [mohamadhidzhazy@mohamadhidzhazi:~/work/study/2024-2025/Операционные с...
~/work/study/2024-2025/Операционные системы/os-intro
LICENSE [-----] 0 L:[ 1+ 0 1/397] *(0 /18657b) 0065 0x041 [*][X]
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1Помощь 2Сохран 3Блок 4Замена 5Копия 6Пере-ить 7Поиск 8Удалить 9МенюМС 10Выход
```

Рис. 11: Отредактируем содержимое текстового файла без сохранения результатов

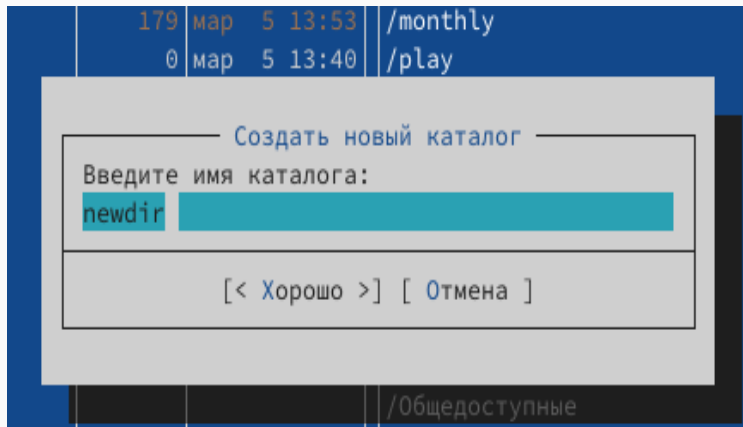


Рис. 12: Создание каталога

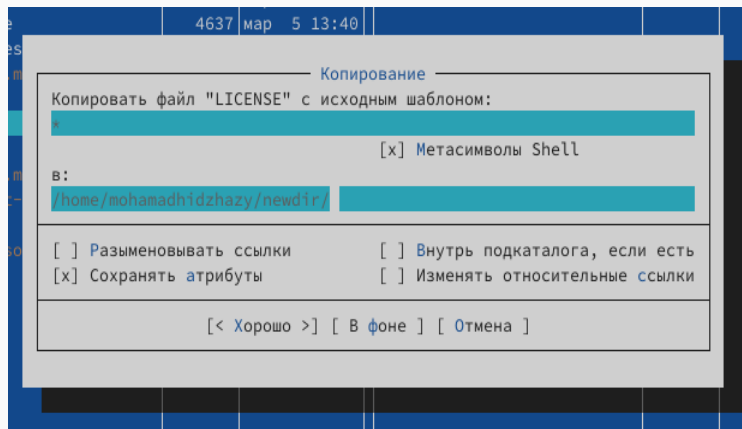


Рис. 13: Копирование в файлов в созданный каталог

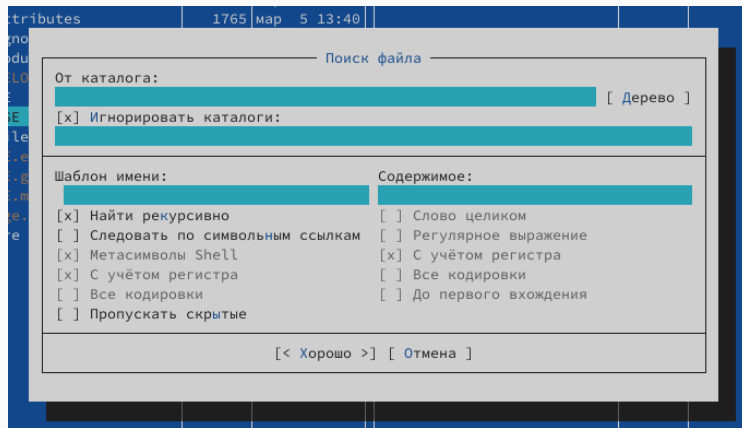


Рис. 14: Поиск файлов

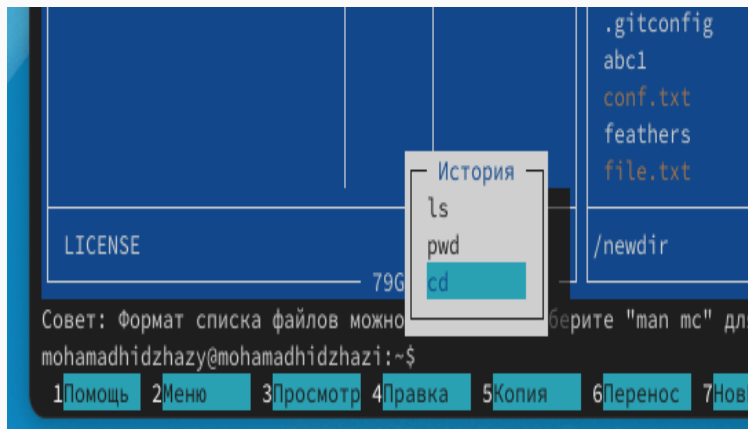


Рис. 15: История команд

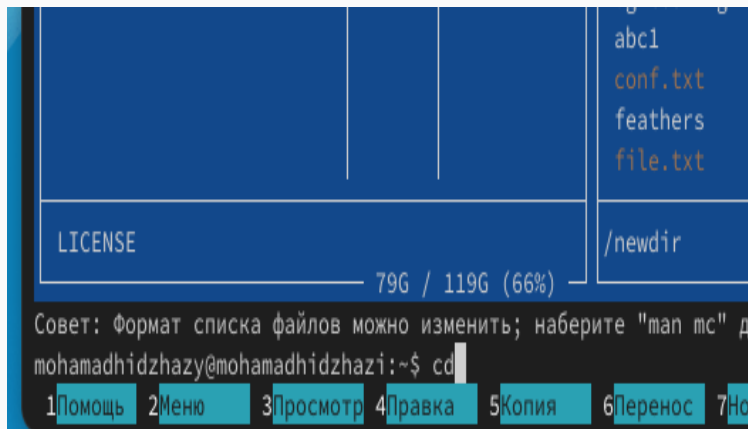


Рис. 16: Переход в домашний каталог

A screenshot of the Midnight Commander file manager interface. The top status bar shows the file path 'mc.ext.ini' and various file attributes. The main window displays the contents of the 'mc.ext.ini' file, which is a configuration file for Midnight Commander 4.0. The text is displayed in a monospaced font on a dark blue background. The file content includes a warning about the file structure change in version 4.0, instructions on how to edit the file, and a list of section names and their purposes. The sections mentioned are 'mc.ext.ini' (mandatory, contains file metadata), 'Version' (mandatory, contains file format version), 'Default' (optional, applied if no other match was found), and 'Include/xxxx' (can be referenced as 'Include=xxxx' from other sections). The file is processed from top to bottom, and the first section with the same name is used. The 'Default' section should be a catch-all action and come last.

```
mc.ext.ini [----] 0 L: [ 1+ 0 1/1136] *(0 /26909b) 0035 0x023 [*][X]
Midnight Commander 4.0 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 (F9-c-e). If you edit this file in any other way
> while mc is running, you will need to press F9-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/xxxxx
> 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 manager's menu system. The window title is "menu" with standard window controls. The menu is open, showing a list of options. At the top, it says "shell_patterns=0". The menu items include: a separator line, a list of macros starting with '#' (e.g., '%%', '%f', '%p', '%d', '%s', '%t', '%u', '%view'), another separator line, '+ ! t t' (Do something on the current file), '@' (CMD=%{Enter command}), '\$CMD %f', '+ t t' (Do something on the tagged files), '@' (CMD=%{Enter command}), and 'for i in %t ; do'. At the bottom, a status bar shows numbered shortcuts: 1.Помощь, 2.Сохранить, 3.Блок, 4.Замена, 5.Копия, 6.Перем-тить, 7.Поиск, 8.Удалить, 9.МенюМС, 10.Выход.

```
menu [=====] 1 L: [ 1*16 17/370 ] *(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)
# %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
# %0f don't quote expanded macro
#####

+ ! t t
@      Do something on the current file
      CMD=%{Enter command}
      $CMD %f

+ t t
@      Do something on the tagged files
      CMD=%{Enter command}
      for i in %t ; do
```

Рис. 18: Просмотр файла меню



Рис. 19: Конфигурация



Рис. 20: Внешний вид



Рис. 21: Настройки панелей



Рис. 22: Подтверждение



Рис. 23: Оформление



Рис. 24: Кодировка символов



Рис. 25: Распознавание клавиш



```
LICENSE [----] 46 L:[ 1+18 19/397] *(898 /18657b) 0108 0x06C [*] [X]
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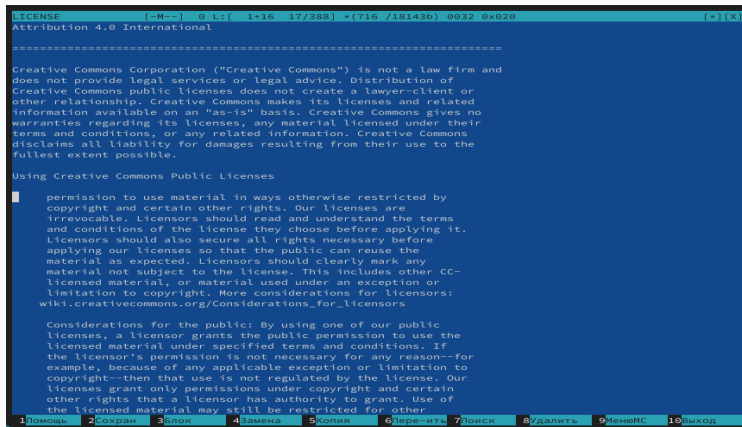
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```

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

Рис. 26: Файл с текстом

Работа с редактором Midnight Commander



```
LICENSE      [-M--]  0 L:[ 1+16 17/388] *(716 /18143b) 0032 0x020      [*][X]
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```

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

Рис. 27: Файл с текстом

Работа с редактором Midnight Commander

```
LICENSE [BM--] 0 L[ 1+20 21/416] *(970 /19921b) 0032 0x020 [*][X]
```

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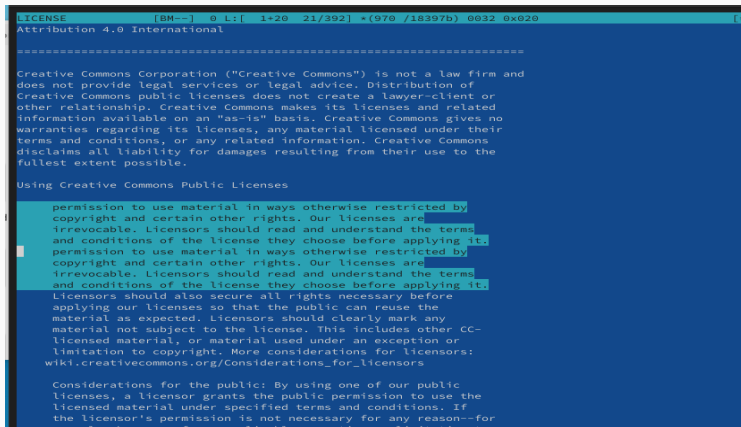
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1 Помощь 2 Сохранить 3 Выход 4 Заменить 5 Копия 6 Пере-итъ 7 Поиск 8 Удалить 9 МенюМС 10 Выход

Рис. 28: Копирование фрагмента



Рис. 29: Сохранение



```
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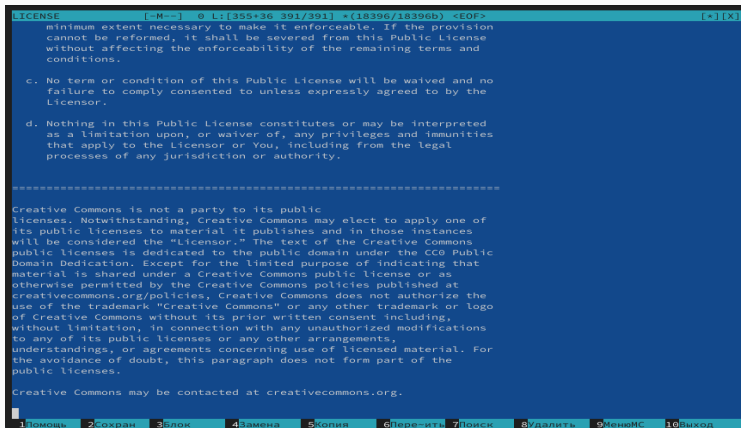
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Рис. 30: Отмена

Работа с редактором Midnight Commander



```
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Рис. 31: Переход в конец файла

Работа с редактором Midnight Commander



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

Рис. 32: Переход в начало файла

Работа с редактором Midnight Commander



```
orc_dump.c      [----]  0 L:[ 13+ 0  13/161] *(272 /3240b) 0105 0x069      [*][X]
1int orc_dump(const char *_objname)
{
    ----->int fd, nr_entries, i, *orc_ip = NULL, orc_size = 0;
    ----->struct orc_entry *orc = NULL;
    ----->char *name;
    ----->size_t nr_sections;
    ----->Elf64_Addr orc_ip_addr = 0;
    ----->size_t shstrtab_idx, strtab_idx = 0;
    ----->Elf *elf;
    ----->Elf_Scn *scn;
    ----->GElf_Shdr sh;
    ----->GElf_Rela rela;
    ----->GElf_Sym sym;
    ----->Elf_Data *data, *symtab = NULL, *rela_orc_ip = NULL;
    ----->struct elf dummy_elf = {};

    ----->objname = _objname;

    ----->elf_version(EV_CURRENT);

    ----->fd = open(objname, O_RDONLY);
    ----->if (fd == -1) {
    -----><----->perror("open");
    -----><----->return -1;
    ----->}

    ----->elf = elf_begin(fd, ELF_C_READ_MMAP, NULL);
    ----->if (!elf) {
    -----><----->WARN_ELF("elf_begin");
    -----><----->return -1;
    ----->}

    ----->if (!elf64_getehdr(elf)) {
    -----><----->WARN_ELF("elf64_getehdr");
    -----><----->return -1;
    ----->}

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

Рис. 33: Файл с программой



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.