

Лабораторная работа №9

Текстовый редактор emacs

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Информация

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Вводная часть

- текстовый редактор emacs

- Ознакомиться с теоретическим материалом.
- Ознакомиться с редактором emacs.
- Выполнить упражнения.
- Ответить на контрольные вопросы

Цель работы

Познакомиться с операционной системой Linux. Получить практические навыки работы с редактором Emacs.

Выполнение лабораторной работы

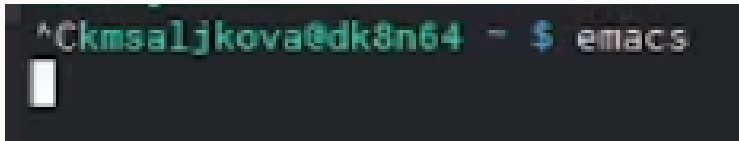


Рис. 1: открываем emacs

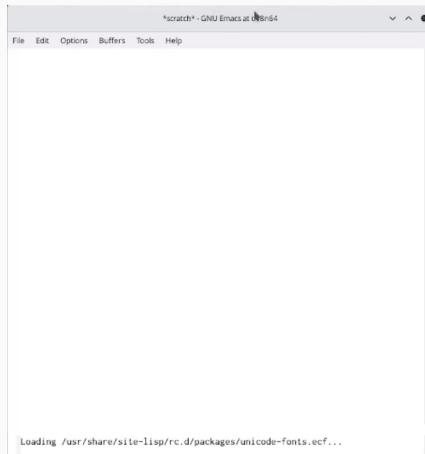


Рис. 2: загрузка emacs

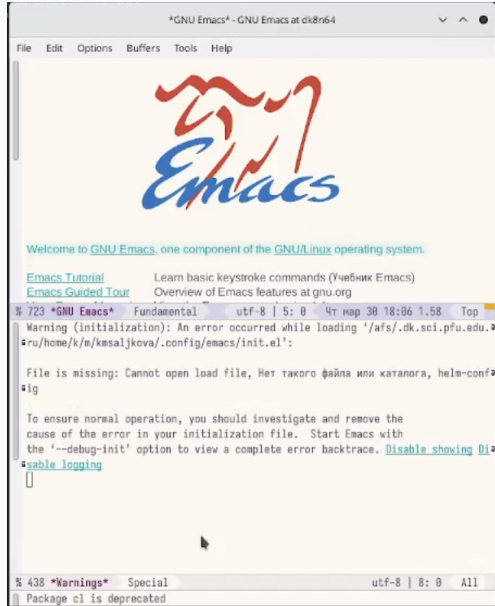
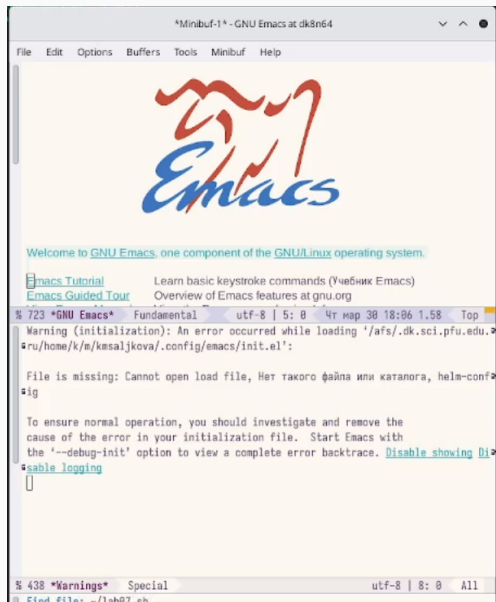


Рис. 3: emacs

2. Создать файл lab07.sh с помощью комбинации Ctrl-x Ctrl-f (C-x C-f)



The screenshot shows the GNU Emacs editor window titled "*Minibuf-1* - GNU Emacs at dk8n64". The menu bar includes File, Edit, Options, Buffers, Tools, Minibuf, and Help. The main text area displays the Emacs logo, which consists of a red stylized symbol above the word "Emacs" in blue. Below the logo, there is a welcome message: "Welcome to [GNU Emacs](#), one component of the GNU/Linux operating system." followed by links to "Emacs Tutorial" and "Emacs Guided Tour" with their respective descriptions. A status bar at the bottom of the main window shows "% 723 *GNU Emacs* Fundamental utf-8 | 5: 0 4т мар 38 18:06 1.58 Top". Below the main window, a warning message is displayed in a separate buffer titled "% 438 *Warnings* Special", which says: "Warning (initialization): An error occurred while loading '/afs/.dk.sci.pfu.edu.ru/home/k/m/kmsaljkova/.config/emacs/init.el': File is missing: Cannot open load file, Нет такого файла или каталога, helm-config". The warning buffer also shows "To ensure normal operation, you should investigate and remove the cause of the error in your initialization file. Start Emacs with the '--debug-init' option to view a complete error backtrace. [Disable showing Di](#)" and "stable logging". The bottom status bar of the warning buffer shows "utf-8 | 8: 0 All".

```
*Minibuf-1* - GNU Emacs at dk8n64
File Edit Options Buffers Tools Minibuf Help

Welcome to GNU Emacs, one component of the GNU/Linux operating system.

Emacs Tutorial Learn basic keystroke commands (Учебник Emacs)
Emacs Guided Tour Overview of Emacs features at gnu.org

% 723 *GNU Emacs* Fundamental utf-8 | 5: 0 4т мар 38 18:06 1.58 Top
Warning (initialization): An error occurred while loading '/afs/.dk.sci.pfu.edu.ru/home/k/m/kmsaljkova/.config/emacs/init.el':
File is missing: Cannot open load file, Нет такого файла или каталога, helm-config
ig

To ensure normal operation, you should investigate and remove the
cause of the error in your initialization file. Start Emacs with
the '--debug-init' option to view a complete error backtrace. Disable showing Di
stable logging
[]

% 438 *Warnings* Special utf-8 | 8: 0 All
Find file: ~/lab07.sh
```

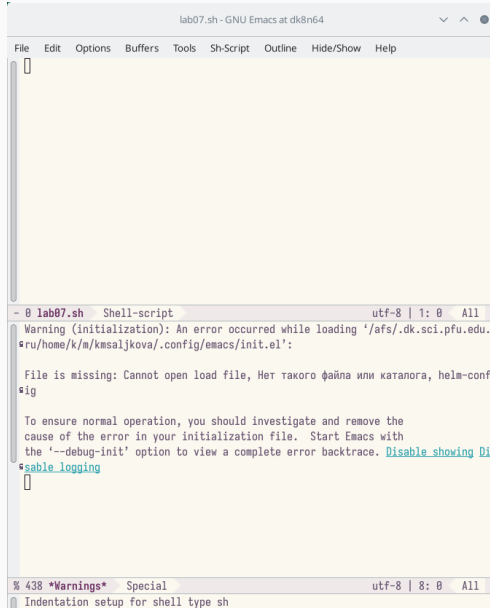


Рис. 5: файл

3.Наберите текст



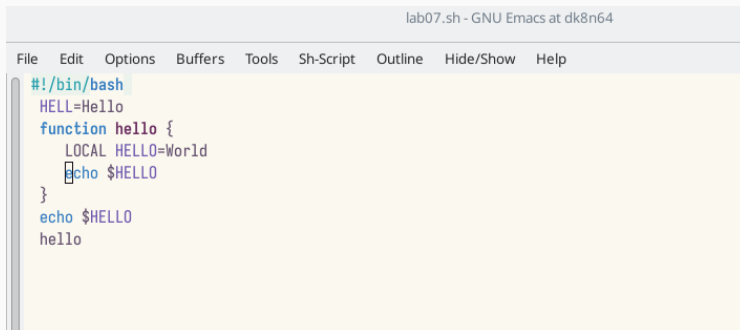
The image shows a screenshot of the GNU Emacs editor interface. At the top, there are menu items: "Приложения", "Места", and "GNU Emacs". Below this is a title bar that says "*Minibuf-1* - GNU Emacs at dk8n64". The main menu bar includes "File", "Edit", "Options", "Buffers", "Tools", "Minibuf", and "Help". The "Edit" menu is currently open, showing a list of editing commands. The main text area of the editor contains a shell script with the following content:

```
#!/bin/bash
HELL=Hello
function hello {
    LOCAL HELLO=World
    echo $HELLO
}
echo $HELLO
hello
```

At the bottom of the window, there is a status bar that displays the current file path and other information: "- 103 lab07.sh Shell-script [sh] company|hs|Outl unix | 8: 6 4т мар 30 18:11 2.18 All".

Рис. 6: ввод текста

4. Сохранить файл с помощью комбинации Ctrl-x Ctrl-s (C-x C-s)

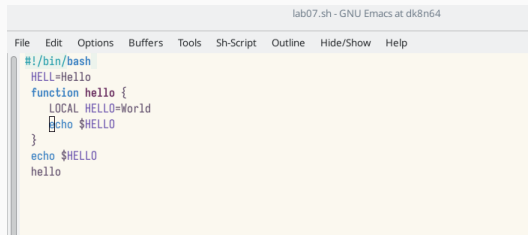


```
lab07.sh - GNU Emacs at dk8n64
File Edit Options Buffers Tools Sh-Script Outline Hide/Show Help
#!/bin/bash
HELL=Hello
function hello {
    LOCAL HELLO=World
    echo $HELLO
}
echo $HELLO
hello
```

Рис. 7: сохранение

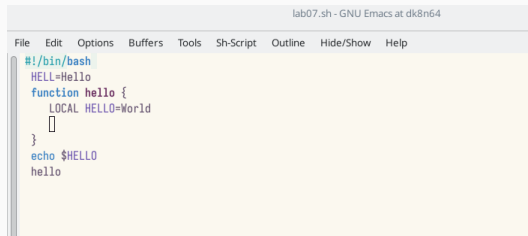
5.Прodelать с текстом стандартные
процедуры редактирования

5.1. Вырезать одной командой целую строку (C-k).



```
lab07.sh - GNU Emacs at dk8n64
File Edit Options Buffers Tools Sh-Script Outline Hide/Show Help
#!/bin/bash
HELL=Hello
function hello {
  LOCAL HELLO=World
  echo $HELLO
}
echo $HELLO
hello
```

Рис. 8: строка

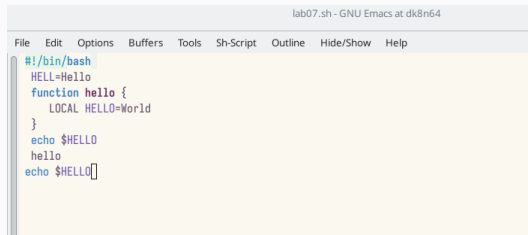


The image shows a screenshot of a GNU Emacs editor window. The title bar at the top reads "lab07.sh - GNU Emacs at dk8n64". Below the title bar is a menu bar with the following items: File, Edit, Options, Buffers, Tools, Sh-Script, Outline, Hide/Show, and Help. The main editing area has a light yellow background and contains the following text:

```
#!/bin/bash
HELL=Hello
function hello {
  LOCAL HELLO=World
}
echo $HELLO
hello
```

Рис. 9: вырезаем строку

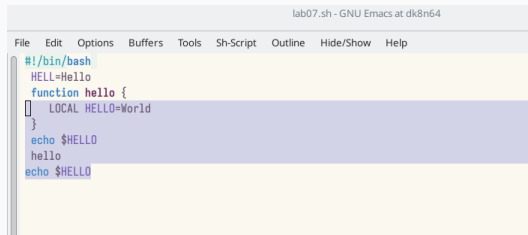
5.2. Вставить эту строку в конец файла (С-у).



```
lab07.sh - GNU Emacs at dk8n64
File Edit Options Buffers Tools Sh-Script Outline Hide/Show Help
#!/bin/bash
HELL=Hello
function hello {
    LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
```

Рис. 10: вставляем строку

5.3. Выделить область текста (C-space).



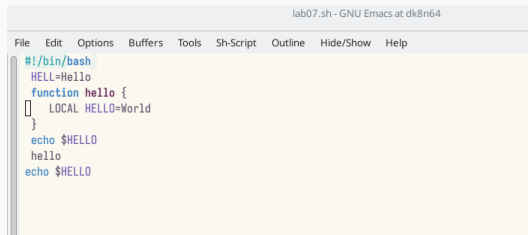
The screenshot shows a GNU Emacs editor window titled "lab07.sh - GNU Emacs at dk8n64". The menu bar includes "File", "Edit", "Options", "Buffers", "Tools", "Sh-Script", "Outline", "Hide/Show", and "Help". The code in the buffer is a shell script:

```
#!/bin/bash
HELL=Hello
function hello {
  LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
```

The lines from "function hello {" to "}" are highlighted in blue, indicating they are selected.

Рис. 11: выделяем

5.4. Скопировать область в буфер обмена (M-w)

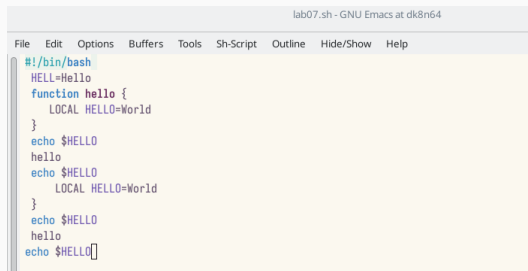


The image shows a screenshot of a GNU Emacs editor window. The title bar at the top reads "lab07.sh - GNU Emacs at dk8n64". Below the title bar is a menu bar with the following items: "File", "Edit", "Options", "Buffers", "Tools", "Sh-Script", "Outline", "Hide/Show", and "Help". The main editing area has a light yellow background and contains the following text:

```
#!/bin/bash
HELL=Hello
function hello {
  LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
```

Рис. 12: копируем

5.5. Вставить область в конец файла.



```
lab07.sh - GNU Emacs at dk8n64
File Edit Options Buffers Tools Sh-Script Outline Hide/Show Help
#!/bin/bash
HELL=Hello
function hello {
    LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
    LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
```

Рис. 13: вставляем

5.6. Вновь выделить эту область и на этот раз вырезать её (C-w).

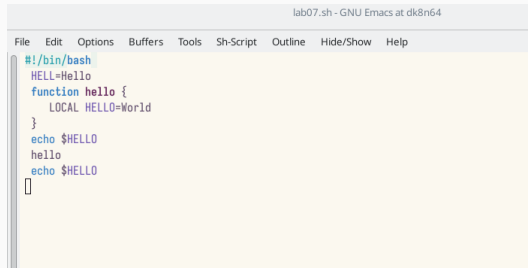


The screenshot shows the GNU Emacs editor interface. The title bar reads "lab07.sh - GNU Emacs at dk8n64". The menu bar includes "File", "Edit", "Options", "Buffers", "Tools", "Sh-Script", "Outline", "Hide/Show", and "Help". The editor buffer contains the following shell script:

```
#!/bin/bash
HELL=Hello
function hello {
  LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
```

A rectangular region of the script is highlighted in light blue. This region starts at the beginning of the line "LOCAL HELLO=World" and extends to the end of the line "echo \$HELLO" on the line immediately following it. The cursor is positioned at the start of the highlighted region.

Рис. 14: выделяем



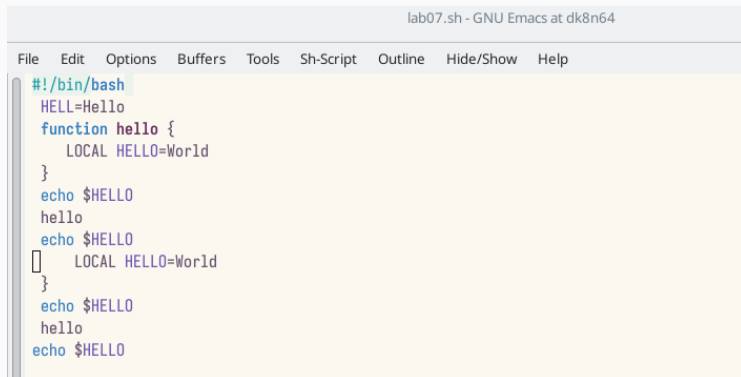
The image shows a screenshot of a GNU Emacs editor window. The title bar at the top reads "lab07.sh - GNU Emacs at dk8n64". Below the title bar is a menu bar with the following items: "File", "Edit", "Options", "Buffers", "Tools", "Sh-Script", "Outline", "Hide/Show", and "Help". The main editing area has a light yellow background and contains the following shell script code:

```
#!/bin/bash
HELL=Hello
function hello {
    LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
```

A cursor is visible at the end of the last line of code.

Рис. 15: вырезаем

5.7. Отмените последнее действие (C-/)

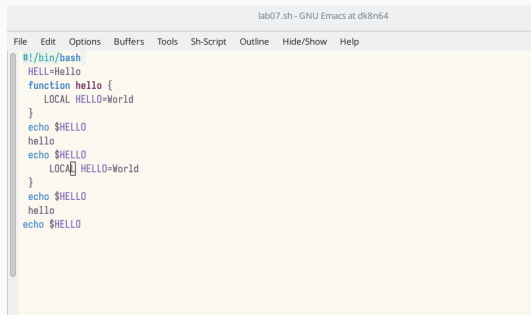


```
lab07.sh - GNU Emacs at dk8n64
File Edit Options Buffers Tools Sh-Script Outline Hide/Show Help
#!/bin/bash
HELL=Hello
function hello {
    LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
    LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
```

Рис. 16: отменяем действие

6. Научитесь использовать команды по перемещению курсора

6.1. Переместите курсор в начало строки (C-a).

A screenshot of the GNU Emacs editor window titled 'lab07.sh - GNU Emacs at dk8n64'. The menu bar includes 'File', 'Edit', 'Options', 'Buffers', 'Tools', 'Sh-Script', 'Outline', 'Hide/Show', and 'Help'. The editor area has a light yellow background and contains a shell script. The script text is:

```
#!/bin/bash
HELL=Hello
function hello {
  LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
```

The cursor is positioned at the beginning of the line 'LOCAL HELLO=World' within the function definition block. The text is color-coded: blue for shell keywords and variables, and black for the function body content.

Рис. 17: начальное положение курсора



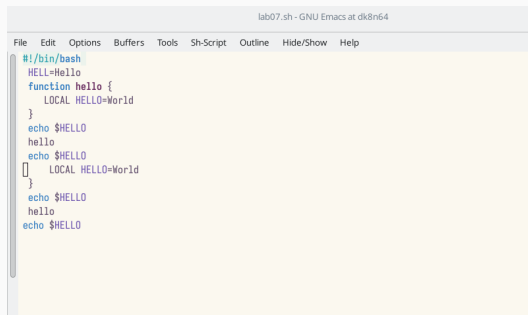
The image shows a screenshot of a GNU Emacs editor window. The title bar at the top reads "lab07.sh - GNU Emacs at dk8n64". Below the title bar is a menu bar with the following items: File, Edit, Options, Buffers, Tools, Sh-Script, Outline, Hide/Show, and Help. The main editing area has a light yellow background and contains a shell script. The script is as follows:

```
#!/bin/bash
HELL=Hello
function hello {
    LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
[    LOCAL HELLO=World
]
echo $HELLO
hello
echo $HELLO
```

The cursor is positioned at the beginning of the first line, "#!/bin/bash".

Рис. 18: курсор в начале строки

6.2. Переместите курсор в конец строки (С-е).



The screenshot shows a GNU Emacs editor window titled "lab07.sh - GNU Emacs at dk8n64". The menu bar includes "File", "Edit", "Options", "Buffers", "Tools", "Sh-Script", "Outline", "Hide/Show", and "Help". The script content is as follows:

```
#!/bin/bash
HELL=Hello
function hello {
  LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
```

The cursor is positioned at the end of the last line, "echo \$HELLO".

Рис. 19: начальное положение курсора



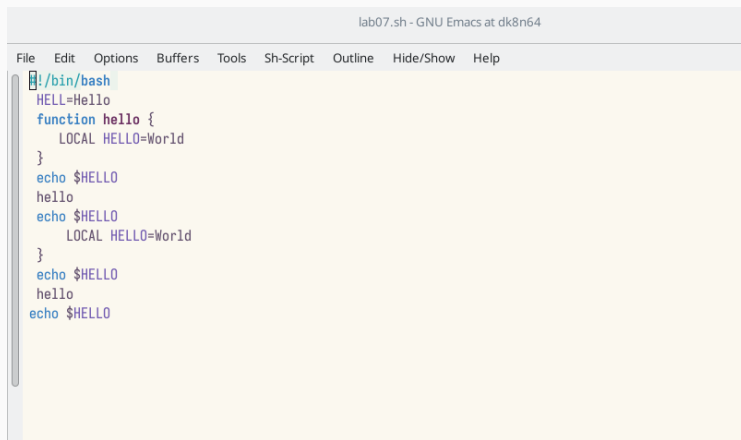
The image shows a screenshot of a GNU Emacs editor window. The title bar at the top reads "lab07.sh - GNU Emacs at dk8n64". Below the title bar is a menu bar with the following items: File, Edit, Options, Buffers, Tools, Sh-Script, Outline, Hide/Show, and Help. The main editing area has a light yellow background and contains a Bash script. The script is as follows:

```
#!/bin/bash
HELL=Hello
function hello {
    LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
    LOCAL HELLO=World[]
}
echo $HELLO
hello
echo $HELLO
```

The cursor is positioned at the end of the last line of the script, "echo \$HELLO".

Рис. 20: курсор в конце строки

6.3.Переместите курсор в начало буфера (M-<).

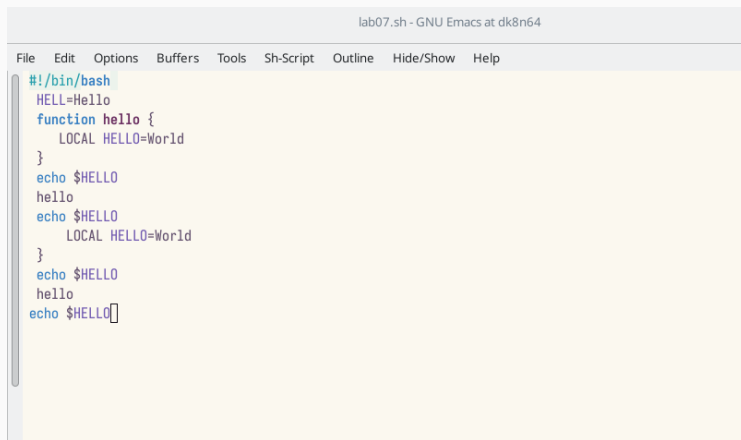


The screenshot shows the GNU Emacs editor interface. The title bar at the top reads "lab07.sh - GNU Emacs at dk8n64". The menu bar includes "File", "Edit", "Options", "Buffers", "Tools", "Sh-Script", "Outline", "Hide/Show", and "Help". The main editing area contains a shell script buffer. The first line, "#!/bin/bash", is highlighted in light blue. A vertical scrollbar is visible on the left side of the buffer. The script content is as follows:

```
#!/bin/bash
HELL=Hello
function hello {
  LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
  LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
```

Рис. 21: курсор в начале буфера

6.4. Переместите курсор в конец буфера (M->).



The screenshot shows the GNU Emacs editor interface. The title bar at the top reads "lab07.sh - GNU Emacs at dk8n64". The menu bar includes "File", "Edit", "Options", "Buffers", "Tools", "Sh-Script", "Outline", "Hide/Show", and "Help". The main editing area contains a shell script with the following content:

```
#!/bin/bash
HELL=Hello
function hello {
  LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
  LOCAL HELLO=World
}
echo $HELLO
hello
echo $HELLO
```

The cursor is positioned at the end of the last line, "echo \$HELLO", indicated by a small vertical bar.

Рис. 22: курсор в конце буфера

7. Управление буферами

7.1. Вывести список активных буферов на экран (C-x C-b)

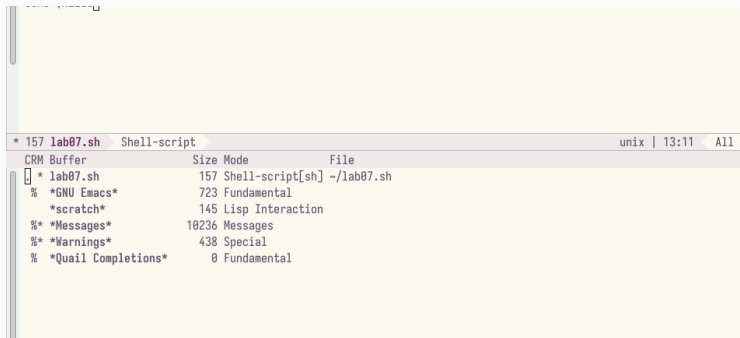


Рис. 23: список

7.2. Переместитесь во вновь открытое окно (С-х) о со списком открытых буферов и переключитесь на другой буфер.

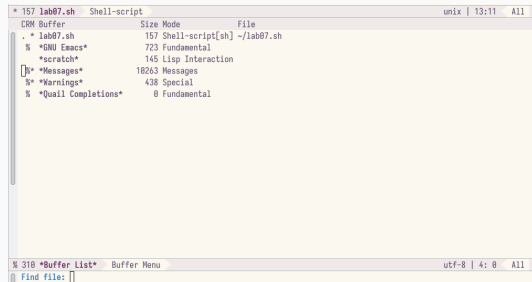


Рис. 24: окно со списком буферов

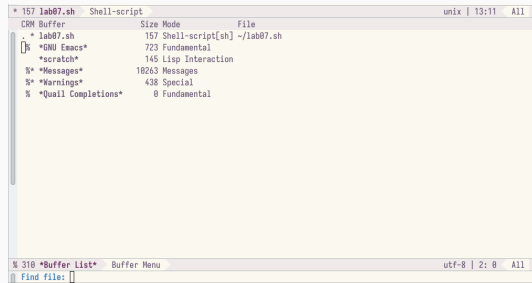
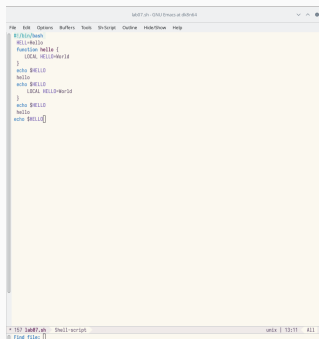


Рис. 25: выполняем команды

7.3. Закройте это окно (С-х 0).



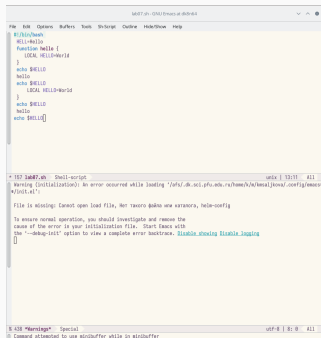
The screenshot shows a terminal window titled "bash - GNU Emacs at d8d8d4". The window contains a shell script with the following content:

```
#!/bin/bash
HELLO=hello
function hello {
    LOCAL_HELLO=world
}
echo $HELLO
hello
echo $HELLO
echo $LOCAL_HELLO=world
}
echo $HELLO
hello
echo $HELLO
```

The terminal window has a menu bar with "File", "Edit", "Options", "Buffers", "Tools", "Shell Scripts", "Outline", "Help/Show", and "Help". The status bar at the bottom shows "153 34887.00 Shell-script" and "unix (13:11) All".

Рис. 26: вернулись в файл

7.4.Переключайтесь между буферами, но уже без вывода их списка на экран (C-x b).



The screenshot shows an Emacs editor window with a menu bar (File, Edit, Options, Buffers, Tools, Snippets, Outline, Help/Show, Help) and a toolbar. The main text area contains a shell script:

```
#!/bin/bash
HELLO=hello
function hello {
  (LOCAL_HELLO=World
  )
  echo $HELLO
  hello
  echo $HELLO
  (LOCAL_HELLO=World
  )
  echo $HELLO
  hello
  echo $HELLO
}
```

Below the script, a status line indicates: `* 157 3ab07.sh Shell-script unix | 13:11 411`. A warning message is displayed:

```
Warning (initialization): An error occurred while loading '/usr/share/emacs/24.3/lisp/init.el':
File is missing: Cannot open load file, Not found: /usr/share/emacs/24.3/lisp/init.el

To ensure normal operation, you should investigate and remove the
cause of the error in your initialization file. Start Emacs with
the '--debug-init' option to view a complete error backtrace. Disable showing init file loading
```

At the bottom, a status bar shows: `8 428 "Warning" Special utf-8 | 8: 0 411` and a message: `Command attempted to use aliothuffer while in aliothuffer`.

Рис. 27: выполнение команды

8. Управление окнами

8.1. Поделите фрейм на 4 части:

Разделите фрейм на два окна по вертикали (С-х 3)

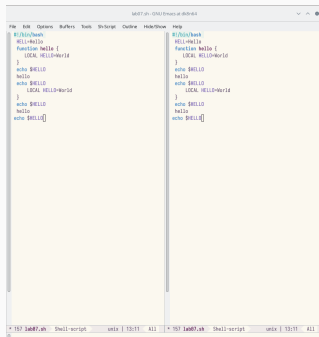


Рис. 28: разделение по вертикали

Каждое из этих окон на две части по горизонтали (С-х 2)

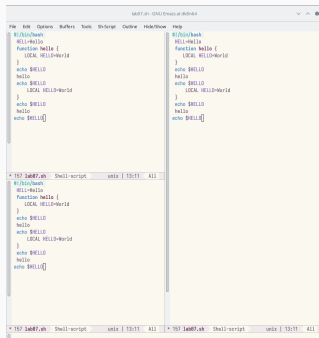


Рис. 29: левое окно по горизонтали

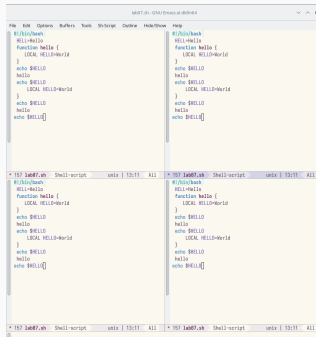


Рис. 30: правое окно по горизонтали

8.2. В каждом из четырёх созданных окон откройте новый буфер (файл) и введите несколько строк текста.

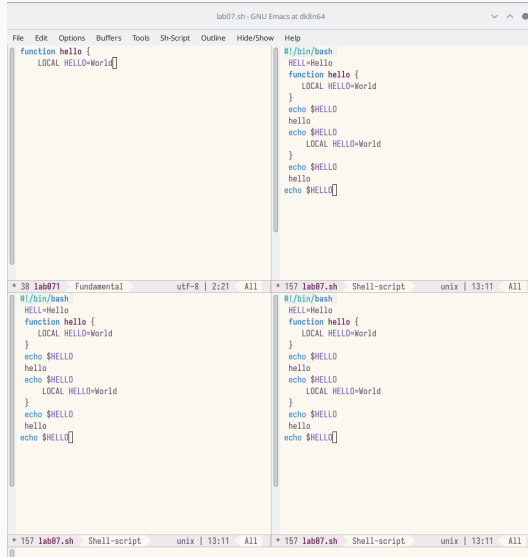


Рис. 31: открытие нового буфера и текст

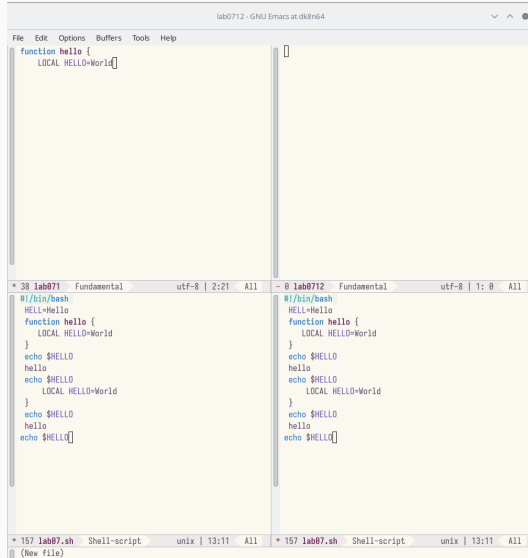


Рис. 32: открываем новый буфер

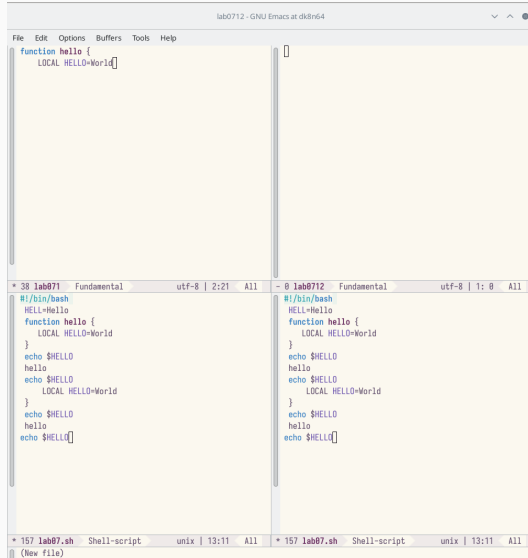


Рис. 33: вводим текст

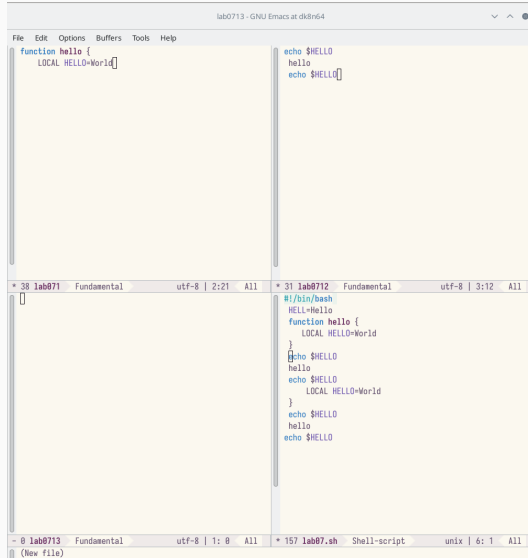


Рис. 34: открываем новый буфер

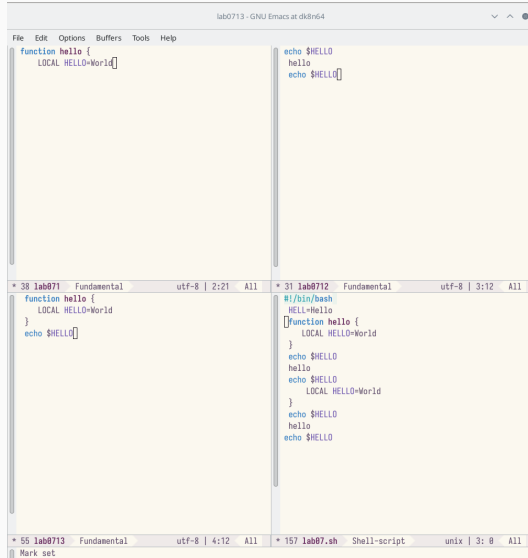


Рис. 35: вводим текст

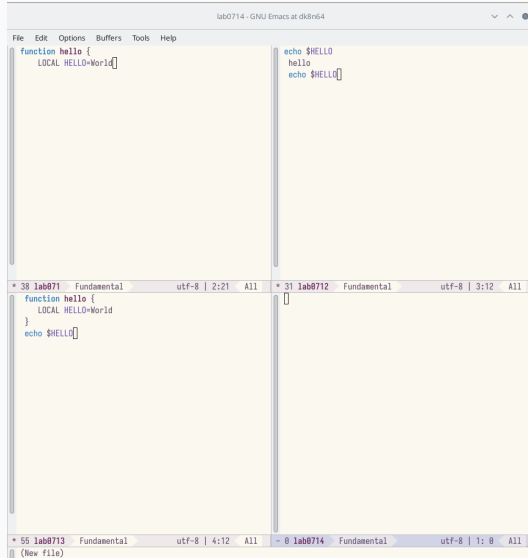


Рис. 36: открываем новый буфер

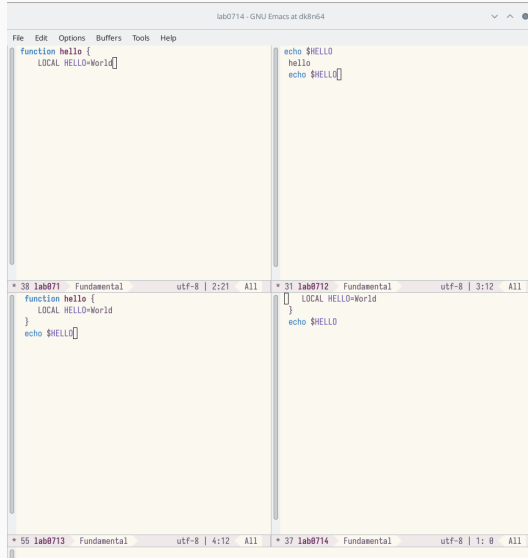


Рис. 37: вводим текст

9. Режим поиска

9.1. Переключитесь в режим поиска (C-s) и найдите несколько слов, присутствующих в тексте.

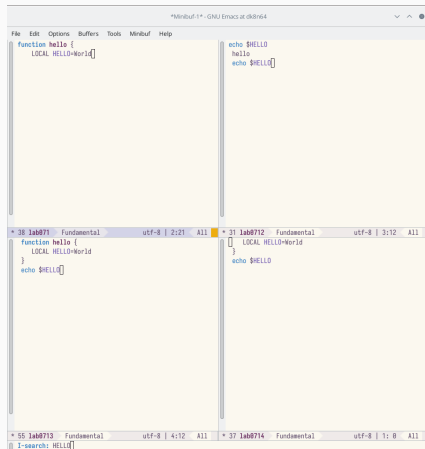


Рис. 38: режим поиска

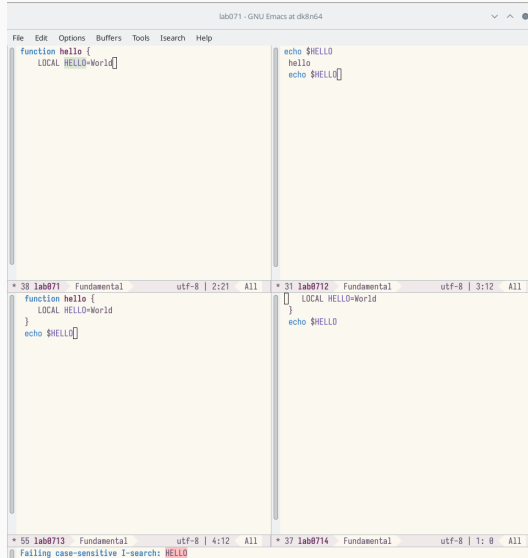


Рис. 39: поиск HELLO

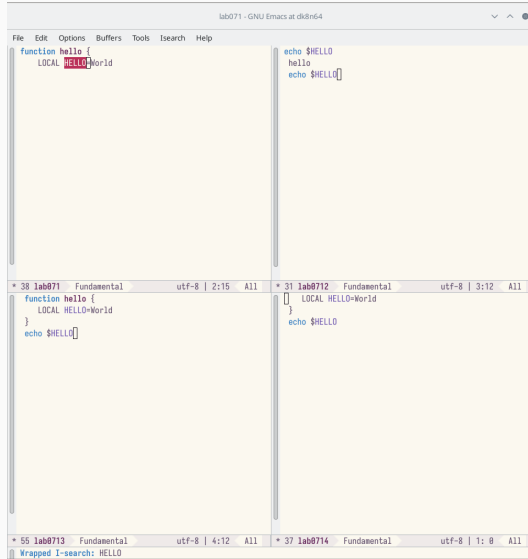


Рис. 40: HELLO

9.2. Переключайтесь между результатами поиска, нажимая C-s.

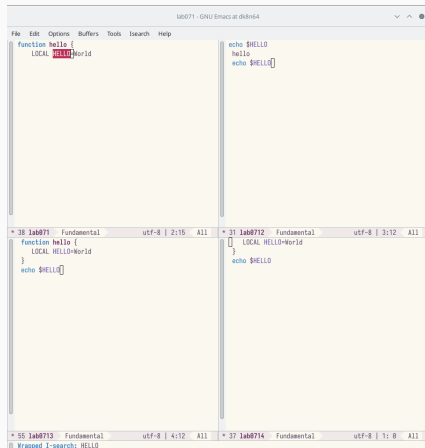


Рис. 41: HELLO(1)

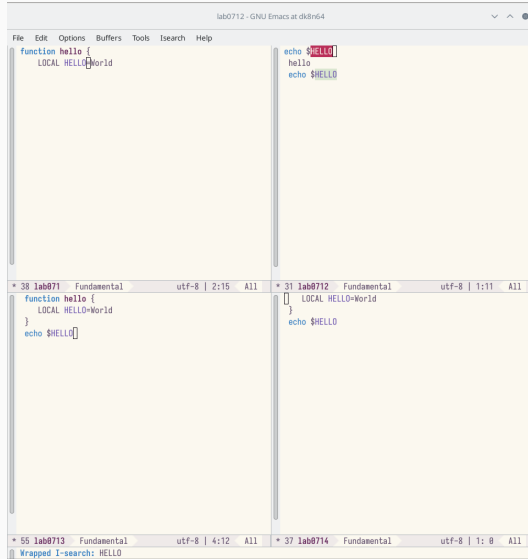


Рис. 42: HELLO(2.1)

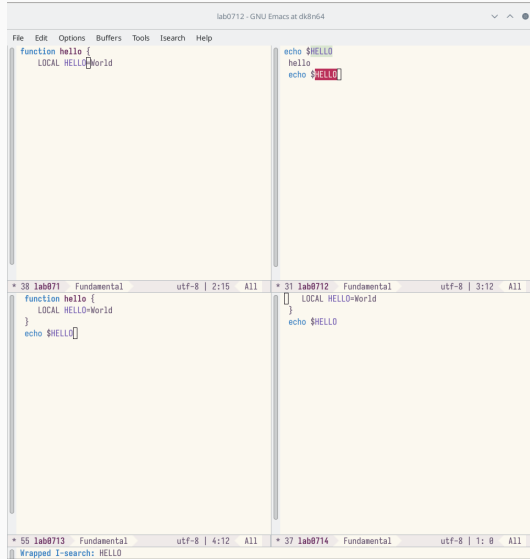


Рис. 43: HELLO(2.2)

The image shows a GNU Emacs window titled "lab0713 - GNU Emacs at dk8n64". The interface is split into four panes, each displaying a different code snippet. The top-left pane shows a function definition. The top-right pane shows a sequence of echo commands. The bottom-left pane shows a function definition with an echo command. The bottom-right pane shows a function definition with an echo command. The status bar at the bottom indicates the current buffer and search results.

```
File Edit Options Buffers Tools Search Help

function hello {
  LOCAL HELLO=World
}

echo $HELLO
hello
echo $HELLO

function hello {
  LOCAL HELLO=World
}
echo $HELLO

function hello {
  LOCAL HELLO=World
}
echo $HELLO

function hello {
  LOCAL HELLO=World
}
echo $HELLO
```

* 38 lab071 Fundamental utf-8 | 2:15 All * 31 lab0712 Fundamental utf-8 | 3:12 All

* 55 lab0713 Fundamental utf-8 | 4:12 All * 37 lab0714 Fundamental utf-8 | 1: 0 All

Failing case-sensitive I-search: HELLO

Рис. 44: HELLO(3)

9.3. Выйдите из режима поиска, нажав C-g.

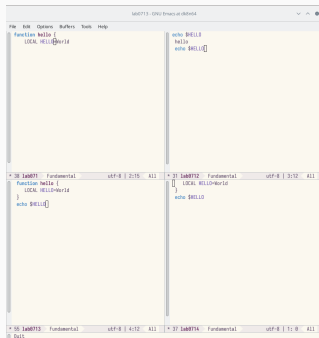


Рис. 45: выход из режима поиска

9.4. Перейдите в режим поиска и замены (M-%).

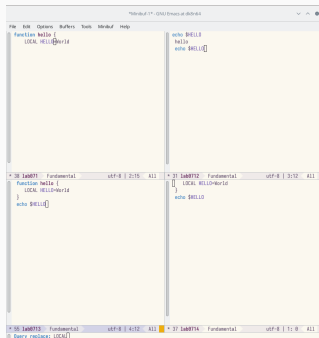


Рис. 46: режим поиска и замены

Введите текст, который следует найти и заменить

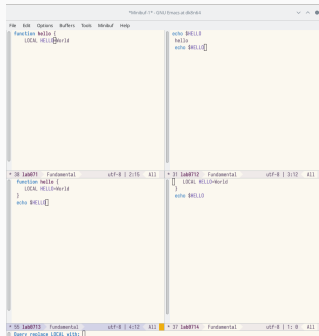


Рис. 47: найти текст

Введите текст для замены

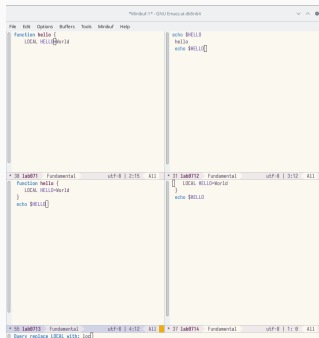


Рис. 48: текст для замены

Вывод

Мы познакомились с операционной системой Linux и получили практические навыки работы с редактором Emacs. ∴ incremental

∴