

Лабораторная работа №1

Тема: Система контроля версий Git.

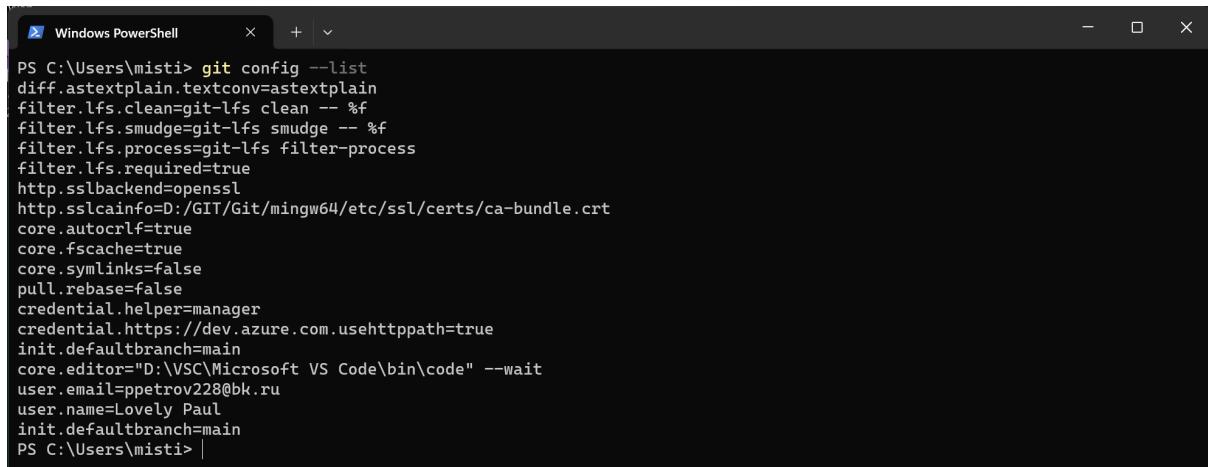
Цель: Познакомиться с возможностями и получить практические навыки работы с системой контроля версий Git.

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Задание 1. Подготовьте рабочее окружение в соответствии с типом вашей операционной системы:

- a. Установите Git
- b. Выполните базовую настройку

Т.к Git уже был установлен прилагаю мои настройки:



```
PS C:\Users\mistii> git config --list
diff.astextplain.textconv=astextplain
filter.lfs.clean=git-lfs clean -- %f
filter.lfs.smudge=git-lfs smudge -- %f
filter.lfs.process=git-lfs filter-process
filter.lfs.required=true
http.sslbackend=openssl
http.sslcainfo=D:/GIT/Git/mingw64/etc/ssl/certs/ca-bundle.crt
core.autocrlf=true
core.fscache=true
core.symlinks=false
pull.rebase=false
credential.helper=manager
credential.https://dev.azure.com.usehttppath=true
init.defaultbranch=main
core.editor="D:\VSC\Microsoft VS Code\bin\code" --wait
user.email=ppetrov228@bk.ru
user.name=Lovely Paul
init.defaultbranch=main
PS C:\Users\mistii> |
```

Задание 2. Создайте структуру папок (использовать командную строку) и поместите в репозиторий Git на своем локальном компьютере (наименование для базовой папки:

253501_IVANOV_12, где 12 – порядковый номер в журнале):

GROUP_NUMBER_YOUR_LAST_NAME_NUMBER_IN_LIST

IGI

LR1 - Папки и файлы в соответствии с индивидуальным заданием

Отчет по ЛР1 со скринами действий и результатов

LR2

LR3

LR4

LR5

STRWEB

LR1

LR2

LR3

LR4

Создание базовой папки:

```
Windows PowerShell
(C) Корпорация Майкрософт (Microsoft Corporation). Все права защищены.

Установите последнюю версию PowerShell для новых функций и улучшения! https://aka.ms/PSWindows

PS C:\Users\misti> cd D:\
PS D:\> cd IGI
PS D:\IGI> mkdir 253502_KRASYOV_11

Каталог: D:\IGI

Mode          LastWriteTime    Length Name
----          -----        ---- 
d---  2/13/2024  9:56 PM           253502_KRASYOV_11

PS D:\IGI> |
```

Создание папок IGI и STRWEB:

```
Windows PowerShell
PS D:\IGI> cd 253502_KRASYOV_11
PS D:\IGI\253502_KRASYOV_11> mkdir IGI

Каталог: D:\IGI\253502_KRASYOV_11

Mode          LastWriteTime    Length Name
----          -----        ---- 
d---  2/13/2024  9:59 PM           IGI

PS D:\IGI\253502_KRASYOV_11> mkdir STRWEB

Каталог: D:\IGI\253502_KRASYOV_11

Mode          LastWriteTime    Length Name
----          -----        ---- 
d---  2/13/2024  10:00 PM          STRWEB

PS D:\IGI\253502_KRASYOV_11> dir

Каталог: D:\IGI\253502_KRASYOV_11

Mode          LastWriteTime    Length Name
----          -----        ---- 
d---  2/13/2024  9:59 PM           IGI
d---  2/13/2024  10:00 PM          STRWEB
```

Создание структуры папок внутри IGI:

```
Windows PowerShell
PS D:\IGI\253502_KRASYOV_11> cd IGI
PS D:\IGI\253502_KRASYOV_11\IGI> mkdir "LR1", "LR2", "LR3", "LR4", "LR5"

Каталог: D:\IGI\253502_KRASYOV_11\IGI

Mode          LastWriteTime    Length Name
----          -----        ---- 
d---  2/13/2024  10:07 PM           LR1
d---  2/13/2024  10:07 PM           LR2
d---  2/13/2024  10:07 PM           LR3
d---  2/13/2024  10:07 PM           LR4
d---  2/13/2024  10:07 PM           LR5

PS D:\IGI\253502_KRASYOV_11\IGI> |
```

Создание структуры папок внутри STWEB:

```
Windows PowerShell

PS D:\IGI\253502_KRASOV_11\IGI> cd ../
PS D:\IGI\253502_KRASOV_11> cd STRWEB
PS D:\IGI\253502_KRASOV_11\STRWEB> mkdir "LR1", "LR2", "LR3", "LR4"

Каталог: D:\IGI\253502_KRASOV_11\STRWEB

Mode          LastWriteTime      Length Name
----          -----          ---- 
d----        2/13/2024 10:10 PM           LR1
d----        2/13/2024 10:10 PM           LR2
d----        2/13/2024 10:10 PM           LR3
d----        2/13/2024 10:10 PM           LR4

PS D:\IGI\253502_KRASOV_11\STRWEB> |
```

Создание структуры папок и файлов в соответствии с индивидуальным заданием:

```
Windows PowerShell

PS D:\IGI\253502_KRASOV_11> cd IGI/LR1
PS D:\IGI\253502_KRASOV_11\IGI\LR1> mkdir "bar", "foo", "baz"

Каталог: D:\IGI\253502_KRASOV_11\IGI\LR1

Mode          LastWriteTime      Length Name
----          -----          ---- 
d----        2/13/2024 10:17 PM           bar
d----        2/13/2024 10:17 PM           foo
d----        2/13/2024 10:17 PM           baz

PS D:\IGI\253502_KRASOV_11\IGI\LR1> |

PS D:\IGI\253502_KRASOV_11\IGI\LR1> cd baz
PS D:\IGI\253502_KRASOV_11\IGI\LR1\baz> mkdir 644

Каталог: D:\IGI\253502_KRASOV_11\IGI\LR1\baz

Mode          LastWriteTime      Length Name
----          -----          ---- 
d----        2/13/2024 10:18 PM           644

PS D:\IGI\253502_KRASOV_11\IGI\LR1\baz> cd 644
PS D:\IGI\253502_KRASOV_11\IGI\LR1\baz\644> mkdir example\211

Каталог: D:\IGI\253502_KRASOV_11\IGI\LR1\baz\644\example

Mode          LastWriteTime      Length Name
----          -----          ---- 
d----        2/13/2024 10:19 PM           211

PS D:\IGI\253502_KRASOV_11\IGI\LR1\baz\644> |
```

```
Windows PowerShell

PS D:\IGI\253502_KRASOV_11\IGI\LR1\baz\644> cd ../../foo
PS D:\IGI\253502_KRASOV_11\IGI\LR1\foo> mkdir 333

Каталог: D:\IGI\253502_KRASOV_11\IGI\LR1\foo

Mode          LastWriteTime      Length Name
----          -----          ---- 
d----        2/13/2024 10:30 PM           333

PS D:\IGI\253502_KRASOV_11\IGI\LR1\foo> cd 333
PS D:\IGI\253502_KRASOV_11\IGI\LR1\foo\333> echo 707 > test.txt
PS D:\IGI\253502_KRASOV_11\IGI\LR1\foo\333> |
```

```

Windows PowerShell
PS D:\IGI\253502_KRASOV_11\IGI\LR1\foo\333> cd ../../bar
PS D:\IGI\253502_KRASOV_11\IGI\LR1\bar> mkdir 755/bin/700

Каталог: D:\IGI\253502_KRASOV_11\IGI\LR1\bar\755\bin

Mode          LastWriteTime      Length Name
----          -----          ----  --
d----        2/13/2024 10:38 PM       700

PS D:\IGI\253502_KRASOV_11\IGI\LR1\bar> cd 755/bin/700
PS D:\IGI\253502_KRASOV_11\IGI\LR1\bar\755\bin\700> mkdir paste/555

Каталог: D:\IGI\253502_KRASOV_11\IGI\LR1\bar\755\bin\700\paste

Mode          LastWriteTime      Length Name
----          -----          ----  --
d----        2/13/2024 10:39 PM       555

PS D:\IGI\253502_KRASOV_11\IGI\LR1\bar\755\bin\700> echo 400 > readme.txt
PS D:\IGI\253502_KRASOV_11\IGI\LR1\bar\755\bin\700> |

```

Результат:

```

Windows PowerShell
PS D:\IGI\253502_KRASOV_11> tree /f /
Структура папок тома Data
Серийный номер тома: 1A2B-C297
D:.
+---IGI
|   +---LR1
|   |   +---bar
|   |   |   \---755
|   |   |   \---bin
|   |   |   \---700
|   |   |       |   readme.txt
|   |   |       \---paste
|   |   |           \---555
|   |   +---baz
|   |   |   \---644
|   |   |       \---example
|   |   |           \---211
|   |   \---foo
|   |       \---333
|           test.txt
|
+---LR2
+---LR3
+---LR4
\---LR5
\---STRWEB
    +---LR1
    +---LR2
    +---LR3
    \---LR4
PS D:\IGI\253502_KRASOV_11> |

```

Задание 3. Создайте репозиторий внутри папки LR1 с помощью клонирования проекта с сайта [github.com](https://github.com/smartiqaorg/geometric_lib)
(https://github.com/smartiqaorg/geometric_lib)

Получим содержимое удаленного репозитория на компьютер:

```
Windows PowerShell      + | ×
PS D:\IGI\253502_KRASYOV_11\IGI\LR1> git clone https://github.com/smartyqorg/geometric_lib
Cloning into 'geometric_lib'...
remote: Enumerating objects: 35, done.
remote: Total 35 (delta 0), reused 0 (delta 0), pack-reused 35
Receiving objects: 100% (35/35), 4.60 KiB | 4.60 MiB/s, done.
Resolving deltas: 100% (6/6), done.
PS D:\IGI\253502_KRASYOV_11\IGI\LR1> |
```

Задание 4. Выполните следующие действия, каждый раз проверяя состояние файлов в локальном репозитории до и после выполнения операции:

- a) сделайте индексацию нескольких файлов в вашем Git-репозитории (git add ...) :

```
PS D:\IGI\253502_KRASYOV_11\IGI\LR1> cd geometric_lib
PS D:\IGI\253502_KRASYOV_11\IGI\LR1\geometric_lib> git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
PS D:\IGI\253502_KRASYOV_11\IGI\LR1\geometric_lib> git add .
PS D:\IGI\253502_KRASYOV_11\IGI\LR1\geometric_lib> git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
PS D:\IGI\253502_KRASYOV_11\IGI\LR1\geometric_lib> |
```

- b) внесите изменения в файлы:

Изменим файлы “circle.py” и “square.py”

```
Windows PowerShell      + | ×
PS D:\IGI\253502_KRASYOV_11\IGI\LR1\geometric_lib> dir

Каталог: D:\IGI\253502_KRASYOV_11\IGI\LR1\geometric_lib

Mode                LastWriteTime         Length Name
----                -----        ----- 
d-----       2/13/2024  10:59 PM            docs
-a----       2/13/2024  10:59 PM          112 circle.py
-a----       2/13/2024  10:59 PM           75 square.py

PS D:\IGI\253502_KRASYOV_11\IGI\LR1\geometric_lib> echo "import math def circleArea(r) return math.pi * r * r" >
    circle.py
PS D:\IGI\253502_KRASYOV_11\IGI\LR1\geometric_lib> echo "def printPerimetr(side) print(f'Периметр: {4*side}\n')" >
    square.py
PS D:\IGI\253502_KRASYOV_11\IGI\LR1\geometric_lib> git status
On branch main
Your branch is up to date with 'origin/main'.

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    modified:   circle.py
    modified:   square.py

no changes added to commit (use "git add" and/or "git commit -a")
PS D:\IGI\253502_KRASYOV_11\IGI\LR1\geometric_lib> |
```

- c) выполните коммиты к проиндексированным файлам:

Проиндексируем изменённый файлы (git add .) и затем выполним коммит

```
Windows PowerShell

PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> git add .
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   circle.py
    modified:   square.py

PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> git commit -m "Изменено содержание файлов circle.py и square.py"
[main 5f1ddcc] Изменено содержание файлов circle.py и square.py
  2 files changed, 0 insertions(+), 0 deletions(-)
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

nothing to commit, working tree clean
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib>
```

d) добавьте и удалите файлы (один и группу файлов с определенным расширением):

Добавление файлов:

```
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> echo Текстовый файл добавлен > addedfile.txt
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> echo "int main() {std::cout << 'Hello world\n';}" > addedprogramfile.cpp
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> echo "def helloWorld() print('Hello World!')" > helloWorld.py
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> echo Заключающий файл > lastfile.txt
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    addedfile.txt
    addedprogramfile.cpp
    helloWorld.py
    lastfile.txt

nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib>
```

Удаляем один и несколько файлов:

```
Windows PowerShell

PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> rm helloWorld.py
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    addedfile.txt
    addedprogramfile.cpp
    lastfile.txt

nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> rm *.txt
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    addedprogramfile.cpp

nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib>
```

e) переименуйте файлы:

```
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> dir

Каталог: D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib

Mode          LastWriteTime    Length Name
----          -----        ---- 
d----
```

Коммит изменений репозитория:

```
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> echo GeometricLib > README.md
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> git add .
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   README.md
    new file:   renamed.cpp

PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> git commit -m "Изменена файловая структура"
[main 2aad544] Изменена файловая структура
  2 files changed, 0 insertions(+), 0 deletions(-)
  create mode 100644 README.md
  create mode 100644 renamed.cpp
PS D:\IGI\253502_KRASOV_11\IGI\LR1\geometric_lib> |
```

f) создайте для IGI и STRWEB, а также для каждой ЛР, вложенной в них, отдельные ветки, переместите папки и файлы на соответствующие ветки:
Создадим локальный репозиторий:

```
Windows PowerShell x + v
PS D:\IGI\253502_KRASYOV_11> git init
Initialized empty Git repository in D:/IGI/253502_KRASYOV_11/.git/
PS D:\IGI\253502_KRASYOV_11> git status
On branch main

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    IGI/
nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASYOV_11> |
```

Создадим новый файл, индексируем его и выполним коммит.

```
Windows PowerShell x + v
PS D:\IGI\253502_KRASYOV_11> echo MAIN-INIT > README.md
PS D:\IGI\253502_KRASYOV_11> git status
On branch main

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    IGI/
    README.md

nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASYOV_11> git add README.md
PS D:\IGI\253502_KRASYOV_11> git status
On branch main

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   README.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    IGI/

PS D:\IGI\253502_KRASYOV_11> git commit -m "MAIN INIT"
[main (root-commit) 44915d8] MAIN INIT
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 README.md
```

Перейдём в папку IGI, создадим и переключимся на новую ветку IGI-BRANCH.

Создадим новый файл, индексируем его и выполним коммит.

```
Windows PowerShell x + v
PS D:\IGI\253502_KRASYOV_11\IGI> git checkout -b IGI-BRANCH
Switched to a new branch 'IGI-BRANCH'
PS D:\IGI\253502_KRASYOV_11\IGI> git branch
* IGI-BRANCH
  main
PS D:\IGI\253502_KRASYOV_11\IGI> git status
On branch IGI-BRANCH
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./

nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASYOV_11\IGI> echo IGI-README > README.md
PS D:\IGI\253502_KRASYOV_11\IGI> git status
On branch IGI-BRANCH
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./

nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASYOV_11\IGI> git add README.md
```

```

PS D:\IGI\253502_KRASOV_11\IGI> git status
On branch IGI-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file: README.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    LR1/
PS D:\IGI\253502_KRASOV_11\IGI> git commit -m "IGI INIT"
[IGI-BRANCH 265896d] IGI INIT
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 IGI/README.md
PS D:\IGI\253502_KRASOV_11\IGI>

```

Перейдём в папку LR1. Т.к Git не отслеживает пустые папки, то для сохранения структуры папок из индивидуального задания добавим файлы в пустые папки:

```

PS D:\IGI\253502_KRASOV_11\IGI\LR1> cd bar\755\bin\700\paste\555
PS D:\IGI\253502_KRASOV_11\IGI\LR1> echo Init File > init.txt

PS D:\IGI\253502_KRASOV_11\IGI\LR1\bar\755\bin\700> cd ../../..
PS D:\IGI\253502_KRASOV_11\IGI\LR1> cd baz
PS D:\IGI\253502_KRASOV_11\IGI\LR1\baz> cd 644\example\211
PS D:\IGI\253502_KRASOV_11\IGI\LR1\baz\644\example\211> echo File Init > init.txt

```

В папке LR1 создадим и переключимся на новую ветку IGI-LR1-BRANCH, проиндексируем все файлы, содержащиеся в данной папке и выполним коммит, после чего вернемся на ветку IGI-BRANCH:

```

Windows PowerShell

PS D:\IGI\253502_KRASOV_11\IGI> cd LR1
PS D:\IGI\253502_KRASOV_11\IGI\LR1> git checkout -b IGI-LR1-BRANCH
Switched to a new branch 'IGI-LR1-BRANCH'
PS D:\IGI\253502_KRASOV_11\IGI\LR1> git status
On branch IGI-LR1-BRANCH
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./

nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASOV_11\IGI\LR1> git add .

PS D:\IGI\253502_KRASOV_11\IGI\LR1> git status
On branch IGI-LR1-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file: bar/755/bin/700/paste/555/init.txt
    new file: bar/755/bin/700/readme.txt
    new file: baz/644/example/211/init.txt
    new file: foo/333/test.txt
    new file: geometric_lib

PS D:\IGI\253502_KRASOV_11\IGI\LR1> git commit -m "IGI-LR1 INIT"
[IGI-LR1-BRANCH 7d0e2be] IGI-LR1 INIT
 5 files changed, 1 insertion(+)
 create mode 100644 IGI/LR1/bar/755/bin/700/paste/555/init.txt
 create mode 100644 IGI/LR1/bar/755/bin/700/readme.txt
 create mode 100644 IGI/LR1/baz/644/example/211/init.txt
 create mode 100644 IGI/LR1/foo/333/test.txt
 create mode 160000 IGI/LR1/geometric_lib
PS D:\IGI\253502_KRASOV_11\IGI\LR1>

```

Перейдём в папку LR2, создадим и переключимся на новую ветку. Добавим новый файл, проиндексируем его и выполним коммит, после чего вернемся на ветку IGI-BRANCH:

```
Windows PowerShell

PS D:\IGI\253502_KRASYOV_11\IGI> cd LR2
PS D:\IGI\253502_KRASYOV_11\IGI\LR2> git checkout -b IGI-LR2-BRANCH
Switched to a new branch 'IGI-LR2-BRANCH'
PS D:\IGI\253502_KRASYOV_11\IGI\LR2> git status
On branch IGI-LR2-BRANCH
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ..\LR1/

nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASYOV_11\IGI\LR2> echo IGI-LR2-README > README.md
PS D:\IGI\253502_KRASYOV_11\IGI\LR2> git add README.md
PS D:\IGI\253502_KRASYOV_11\IGI\LR2> git status
On branch IGI-LR2-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   README.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ..\LR1/

PS D:\IGI\253502_KRASYOV_11\IGI\LR2> git commit -m "IGI-LR2 INIT"
[IGI-LR2-BRANCH 9cd6146] IGI-LR2 INIT
  1 file changed, 0 insertions(+), 0 deletions(-)
  create mode 100644 IGI/LR2/README.md
PS D:\IGI\253502_KRASYOV_11\IGI\LR2> |
```

Аналогичный действия для папок LR3, LR4 и LR5:

LR3:

```
Windows PowerShell

PS D:\IGI\253502_KRASYOV_11\IGI\LR2> cd ../LR3
PS D:\IGI\253502_KRASYOV_11\IGI\LR3> git checkout -b IGI-LR3-BRANCH
Switched to a new branch 'IGI-LR3-BRANCH'
PS D:\IGI\253502_KRASYOV_11\IGI\LR3> echo IGI-LR3-BRANCH > README.md
PS D:\IGI\253502_KRASYOV_11\IGI\LR3> git status
On branch IGI-LR3-BRANCH
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ..\LR1/
    ./

nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASYOV_11\IGI\LR3> git add README.md
PS D:\IGI\253502_KRASYOV_11\IGI\LR3> git status
On branch IGI-LR3-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   README.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ..\LR1/

PS D:\IGI\253502_KRASYOV_11\IGI\LR3> git commit -m "IGI-LR3 INIT"
[IGI-LR3-BRANCH 0e5e0f9] IGI-LR3 INIT
  1 file changed, 0 insertions(+), 0 deletions(-)
  create mode 100644 IGI/LR3/README.md
PS D:\IGI\253502_KRASYOV_11\IGI\LR3> |
```

LR4:

```
Windows PowerShell

PS D:\IGI\253502_KRASYOV_11\IGI\LR3> git checkout IGI-BRANCH
Switched to branch 'IGI-BRANCH'
PS D:\IGI\253502_KRASYOV_11\IGI\LR3> cd ../LR4
PS D:\IGI\253502_KRASYOV_11\IGI\LR4> git checkout -b IGI-LR4-BRANCH
Switched to a new branch 'IGI-LR4-BRANCH'
PS D:\IGI\253502_KRASYOV_11\IGI\LR4> git status
On branch IGI-LR4-BRANCH
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ..\LR1/

nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASYOV_11\IGI\LR4> echo IGI-LR4-README > README.md
PS D:\IGI\253502_KRASYOV_11\IGI\LR4> git add README.md
PS D:\IGI\253502_KRASYOV_11\IGI\LR4> git status
On branch IGI-LR4-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   README.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ..\LR1/

PS D:\IGI\253502_KRASYOV_11\IGI\LR4> git commit -m "IGI-LR4 INIT"
[IGI-LR4-BRANCH b663de0] IGI-LR4 INIT
  1 file changed, 0 insertions(+), 0 deletions(-)
  create mode 100644 IGI/LR4/README.md
PS D:\IGI\253502_KRASYOV_11\IGI\LR4> |
```

LR5:

```
Windows PowerShell x + v
PS D:\IGI\253502_KRASYOV_11\IGI\LR4> git checkout IGI-BRANCH
Switched to branch 'IGI-BRANCH'
PS D:\IGI\253502_KRASYOV_11\IGI\LR4> cd ../LR5
PS D:\IGI\253502_KRASYOV_11\IGI\LR5> git checkout -b IGI-LR5-BRANCH
Switched to a new branch 'IGI-LR5-BRANCH'
PS D:\IGI\253502_KRASYOV_11\IGI\LR5> git status
On branch IGI-LR5-BRANCH
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./.LR1/
nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASYOV_11\IGI\LR5> echo IGI-LR5-README > README.md
PS D:\IGI\253502_KRASYOV_11\IGI\LR5> git add README.md
PS D:\IGI\253502_KRASYOV_11\IGI\LR5> git status
On branch IGI-LR5-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   README.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./.LR1/
PS D:\IGI\253502_KRASYOV_11\IGI\LR5> git commit -m "IGI-LR5 INIT"
[IGI-LR5-BRANCH 6c3137b] IGI-LR5 INIT
  1 file changed, 0 insertions(+), 0 deletions(-)
  create mode 100644 IGI/LR5/README.md
PS D:\IGI\253502_KRASYOV_11\IGI\LR5>
```

Вернувшись в ветку IGI-BRANCH, в папку IGI, копируем в неё содержимое папок LR(1,2,3,4,5) из веток IGI-LR(1,2,3,4,5)-BRANCH

```
Windows PowerShell x + v
PS D:\IGI\253502_KRASYOV_11\IGI> git checkout IGI-LR1-BRANCH LR1
Updated 4 paths from 2e05e70
PS D:\IGI\253502_KRASYOV_11\IGI> git status
On branch IGI-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   LR1/bar/755/bin/700/paste/555/init.txt
    new file:   LR1/bar/755/bin/700/readme.txt
    new file:   LR1/baz/644/example/211/init.txt
    new file:   LR1/foo/333/test.txt
    new file:   LR1/geometric_lib

PS D:\IGI\253502_KRASYOV_11\IGI> git checkout IGI-LR2-BRANCH LR2
Updated 1 path from 353e3c2
PS D:\IGI\253502_KRASYOV_11\IGI> git status
On branch IGI-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   LR1/bar/755/bin/700/paste/555/init.txt
    new file:   LR1/bar/755/bin/700/readme.txt
    new file:   LR1/baz/644/example/211/init.txt
    new file:   LR1/foo/333/test.txt
    new file:   LR1/geometric_lib
    new file:   LR2/README.md

PS D:\IGI\253502_KRASYOV_11\IGI> git checkout IGI-LR3-BRANCH LR3
Updated 1 path from c2ed07c
PS D:\IGI\253502_KRASYOV_11\IGI> git status
On branch IGI-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   LR1/bar/755/bin/700/paste/555/init.txt
    new file:   LR1/bar/755/bin/700/readme.txt
    new file:   LR1/baz/644/example/211/init.txt
    new file:   LR1/foo/333/test.txt
    new file:   LR1/geometric_lib
    new file:   LR2/README.md
    new file:   LR3/README.md

PS D:\IGI\253502_KRASYOV_11\IGI> git checkout IGI-LR4-BRANCH LR4
Updated 1 path from 24d2ea4
PS D:\IGI\253502_KRASYOV_11\IGI> git status
On branch IGI-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   LR1/bar/755/bin/700/paste/555/init.txt
    new file:   LR1/bar/755/bin/700/readme.txt
    new file:   LR1/baz/644/example/211/init.txt
    new file:   LR1/foo/333/test.txt
    new file:   LR1/geometric_lib
    new file:   LR2/README.md
    new file:   LR3/README.md
    new file:   LR4/README.md
```

```
PS D:\IGI\253502_KRASOV_11\IGI> git checkout IGI-LR5-BRANCH LR5
Updated 1 path from 189319a
PS D:\IGI\253502_KRASOV_11\IGI> git status
On branch IGI-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:  LR1/bar/755/bin/700/paste/555/init.txt
    new file:  LR1/bar/755/bin/700/readme.txt
    new file:  LR1/baz/644/example/211/init.txt
    new file:  LR1/foo/333/test.txt
    new file:  LR1/geometric_lib
    new file:  LR2/README.md
    new file:  LR3/README.md
    new file:  LR4/README.md
    new file:  LR5/README.md
```

Выполним коммит изменений в ветке *IGI-BRANCH*:

```
PS D:\IGI\253502_KRASOV_11\IGI> git commit -m "IGI-LR folder contents added"
[IGI-BRANCH 248eb5c] IGI-LR folder contents added
 9 files changed, 1 insertion(+)
 create mode 100644 IGI/LR1/bar/755/bin/700/paste/555/init.txt
 create mode 100644 IGI/LR1/bar/755/bin/700/readme.txt
 create mode 100644 IGI/LR1/baz/644/example/211/init.txt
 create mode 100644 IGI/LR1/foo/333/test.txt
 create mode 160000 IGI/LR1/geometric_lib
 create mode 100644 IGI/LR2/README.md
 create mode 100644 IGI/LR3/README.md
 create mode 100644 IGI/LR4/README.md
 create mode 100644 IGI/LR5/README.md
PS D:\IGI\253502_KRASOV_11\IGI> |
```

Далее вернемся на ветку *main* и перейдём в папку *STRWEB*, создадим новый файл и новую ветку *STRWEB-BRANCH*. После переключения на новую ветку проиндексируем созданный файл и выполним коммит.

```
Windows PowerShell
PS D:\IGI\253502_KRASOV_11> cd STRWEB
PS D:\IGI\253502_KRASOV_11\STRWEB> echo STRWEB-README > README.md
PS D:\IGI\253502_KRASOV_11\STRWEB> git checkout -b STRWEB-BRANCH
Switched to a new branch 'STRWEB-BRANCH'
PS D:\IGI\253502_KRASOV_11\STRWEB> git status
On branch STRWEB-BRANCH
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./IGI/
    ./
nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASOV_11\STRWEB> git add README.md
PS D:\IGI\253502_KRASOV_11\STRWEB> git status
On branch STRWEB-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:  README.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./IGI/

PS D:\IGI\253502_KRASOV_11\STRWEB> git commit -m "STRWEB INIT"
[STRWEB-BRANCH baa09c8] STRWEB INIT
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 STRWEB/README.md
PS D:\IGI\253502_KRASOV_11\STRWEB> |
```

Перейдём в папку *LR1*, создадим и переключимся на новую ветку. Добавим новый файл, проиндексируем его и выполним коммит, после чего вернемся на ветку *STRWEB-BRANCH*:

```

Windows PowerShell

PS D:\IGI\253502_KRASYOV_11\STRWEB> cd LR1
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR1> git checkout -b STRWEB-LR1-BRANCH
Switched to a new branch 'STRWEB-LR1-BRANCH'
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR1> echo STRWEB-LR1-README > README.md
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR1> git status
On branch STRWEB-LR1-BRANCH
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./. ./. ./
nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR1> git add README.md
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR1> git status
On branch STRWEB-LR1-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   README.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./. ./. ./
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR1> git commit -m "STRWEB-LR1 INIT"
[STRWEB-LR1-BRANCH 80f966c] STRWEB-LR1 INIT
  1 file changed, 0 insertions(+), 0 deletions(-)
  create mode 100644 STRWEB/LR1/README.md
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR1>

```

Аналогичный действия для папок LR2, LR3 и LR4:

LR2:

```

Windows PowerShell

PS D:\IGI\253502_KRASYOV_11\STRWEB\LR2> cd ../LR2
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR2> git checkout -b STRWEB-LR2-BRANCH
Switched to a new branch 'STRWEB-LR2-BRANCH'
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR2> echo STRWEB-LR2-README > README.md
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR2> git status
On branch STRWEB-LR2-BRANCH
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./. ./. ./
nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR2> git add README.md
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR2> git status
On branch STRWEB-LR2-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   README.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./. ./. ./
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR2> git commit -m "STRWEB-LR2 INIT"
[STRWEB-LR2-BRANCH 70c30d3] STRWEB-LR2 INIT
  1 file changed, 0 insertions(+), 0 deletions(-)
  create mode 100644 STRWEB/LR2/README.md
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR2>

```

LR3:

```

Windows PowerShell

PS D:\IGI\253502_KRASYOV_11\STRWEB\LR3> git checkout STRWEB-BRANCH
Switched to branch 'STRWEB-BRANCH'
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR3> cd ../LR3
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR3> git checkout -b STRWEB-LR3-BRANCH
Switched to a new branch 'STRWEB-LR3-BRANCH'
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR3> echo STRWEB-LR3-README > README.md
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR3> git status
On branch STRWEB-LR3-BRANCH
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./. ./. ./
nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR3> git add README.md
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR3> git status
On branch STRWEB-LR3-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   README.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./. ./. ./
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR3> git commit -m "STRWEB-LR3 INIT"
[STRWEB-LR3-BRANCH b22e01f] STRWEB-LR3 INIT
  1 file changed, 0 insertions(+), 0 deletions(-)
  create mode 100644 STRWEB/LR3/README.md
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR3>

```

LR4:

```
Windows PowerShell x + v
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR3> git checkout STRWEB-BRANCH
Switched to branch 'STRWEB-BRANCH'
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR3> cd ../LR4
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR4> git checkout -b STRWEB-LR4-BRANCH
Switched to a new branch 'STRWEB-LR4-BRANCH'
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR4> echo STRWEB-LR4-README > README.md
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR4> git status
On branch STRWEB-LR4-BRANCH
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./. ./. /IGI/
  ./

nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR4> git add README.md
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR4> git status
On branch STRWEB-LR4-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file: README.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./. ./. /IGI/

PS D:\IGI\253502_KRASYOV_11\STRWEB\LR4> git commit -m "STRWEB-LR4 INIT"
[STRWEB-LR4-BRANCH d5cc21c] STRWEB-LR4 INIT
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 STRWEB/LR4/README.md
PS D:\IGI\253502_KRASYOV_11\STRWEB\LR4> |
```

Вернувшись в ветку STRWEB-BRANCH, в папку STRWEB, копируем в неё содержимое папок LR(1,2,3,4) из веток STRWEB-LR(1,2,3,4)-BRANCH:

```
Windows PowerShell x + v
PS D:\IGI\253502_KRASYOV_11\STRWEB> git checkout STRWEB-LR1-BRANCH LR1
Updated 1 path from 5f4fc29
PS D:\IGI\253502_KRASYOV_11\STRWEB> git status
On branch STRWEB-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file: LR1/README.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./. /IGI/

PS D:\IGI\253502_KRASYOV_11\STRWEB> git checkout STRWEB-LR2-BRANCH LR2
Updated 1 path from d7f4799
PS D:\IGI\253502_KRASYOV_11\STRWEB> git status
On branch STRWEB-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file: LR1/README.md
    new file: LR2/README.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./. /IGI/

PS D:\IGI\253502_KRASYOV_11\STRWEB> |
PS D:\IGI\253502_KRASYOV_11\STRWEB> git checkout STRWEB-LR3-BRANCH LR3
Updated 1 path from 592d41e
PS D:\IGI\253502_KRASYOV_11\STRWEB> git status
On branch STRWEB-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file: LR1/README.md
    new file: LR2/README.md
    new file: LR3/README.md

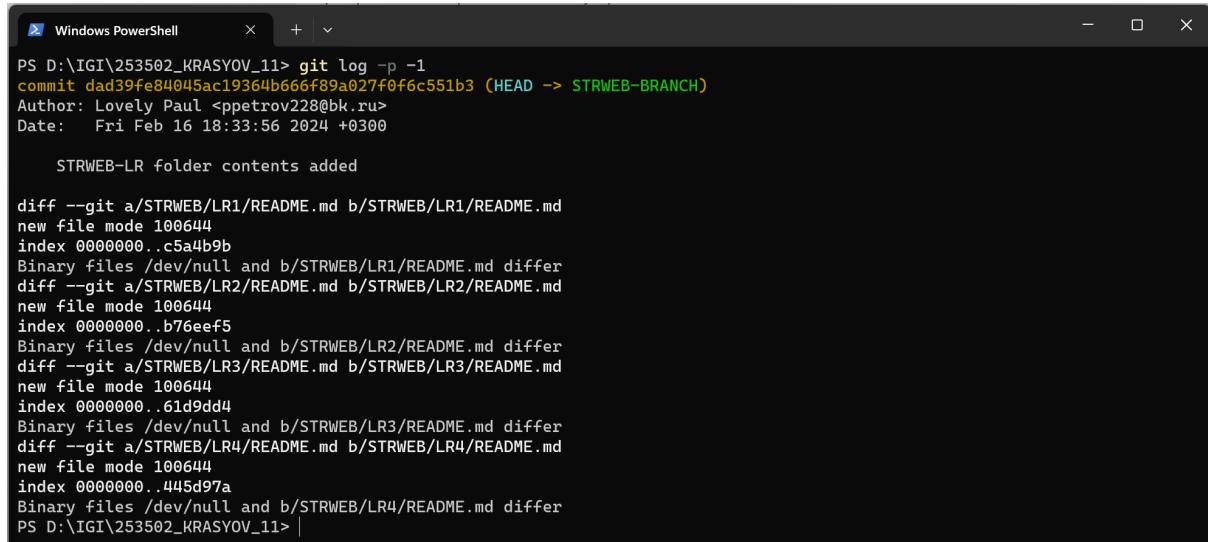
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./. /IGI/

PS D:\IGI\253502_KRASYOV_11\STRWEB> git checkout STRWEB-LR4-BRANCH LR4
Updated 1 path from ba02fc9
PS D:\IGI\253502_KRASYOV_11\STRWEB> git status
On branch STRWEB-BRANCH
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file: LR1/README.md
    new file: LR2/README.md
    new file: LR3/README.md
    new file: LR4/README.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./. /IGI/

PS D:\IGI\253502_KRASYOV_11\STRWEB> |
```

Выполним коммит изменений в ветке STRWEB-BRANCH:

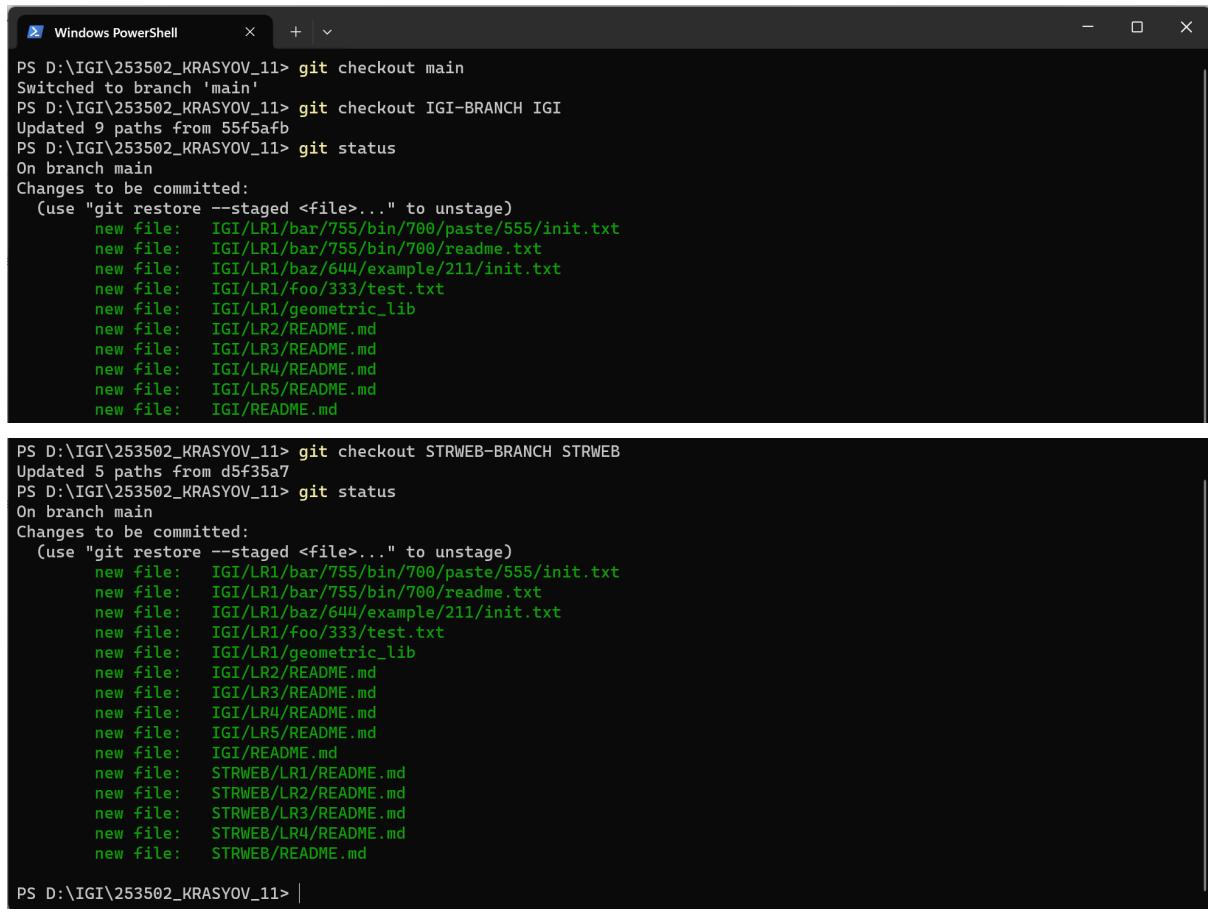


```
PS D:\IGI\253502_KRASOV_11> git log -p -1
commit dad39fe84045ac19364b666f89a027f0f6c551b3 (HEAD -> STRWEB-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:33:56 2024 +0300

    STRWEB-LR folder contents added

diff --git a/STRWEB/LR1/README.md b/STRWEB/LR1/README.md
new file mode 100644
index 0000000..c5a4b9b
Binary files /dev/null and b/STRWEB/LR1/README.md differ
diff --git a/STRWEB/LR2/README.md b/STRWEB/LR2/README.md
new file mode 100644
index 0000000..b76eef5
Binary files /dev/null and b/STRWEB/LR2/README.md differ
diff --git a/STRWEB/LR3/README.md b/STRWEB/LR3/README.md
new file mode 100644
index 0000000..61d9dd4
Binary files /dev/null and b/STRWEB/LR3/README.md differ
diff --git a/STRWEB/LR4/README.md b/STRWEB/LR4/README.md
new file mode 100644
index 0000000..445d97a
Binary files /dev/null and b/STRWEB/LR4/README.md differ
PS D:\IGI\253502_KRASOV_11> |
```

Вернувшись в ветку main, в корневую папку, копируем в неё содержимое папок IGI и STRWEB из веток IGI-BRANCH и STRWEB-BRANCH соответственно:



```
PS D:\IGI\253502_KRASOV_11> git checkout main
Switched to branch 'main'
PS D:\IGI\253502_KRASOV_11> git checkout IGI-BRANCH IGI
Updated 9 paths from 55f5afb
PS D:\IGI\253502_KRASOV_11> git status
On branch main
Changes to be committed:
(use "git restore --staged <file>..." to unstage)
  new file:  IGI/LR1/bar/755/bin/700/paste/555/init.txt
  new file:  IGI/LR1/bar/755/bin/700/readme.txt
  new file:  IGI/LR1/baz/644/example/211/init.txt
  new file:  IGI/LR1/foo/333/test.txt
  new file:  IGI/LR1/geometric.lib
  new file:  IGI/LR2/README.md
  new file:  IGI/LR3/README.md
  new file:  IGI/LR4/README.md
  new file:  IGI/LR5/README.md
  new file:  IGI/README.md

PS D:\IGI\253502_KRASOV_11> git checkout STRWEB-BRANCH STRWEB
Updated 5 paths from d5f35a7
PS D:\IGI\253502_KRASOV_11> git status
On branch main
Changes to be committed:
(use "git restore --staged <file>..." to unstage)
  new file:  IGI/LR1/bar/755/bin/700/paste/555/init.txt
  new file:  IGI/LR1/bar/755/bin/700/readme.txt
  new file:  IGI/LR1/baz/644/example/211/init.txt
  new file:  IGI/LR1/foo/333/test.txt
  new file:  IGI/LR1/geometric.lib
  new file:  IGI/LR2/README.md
  new file:  IGI/LR3/README.md
  new file:  IGI/LR4/README.md
  new file:  IGI/LR5/README.md
  new file:  IGI/README.md
  new file:  STRWEB/LR1/README.md
  new file:  STRWEB/LR2/README.md
  new file:  STRWEB/LR3/README.md
  new file:  STRWEB/LR4/README.md
  new file:  STRWEB/README.md

PS D:\IGI\253502_KRASOV_11> |
```

И выполним коммит изменений в ветку main:

```

PS D:\IGI\253502_KRASOV_11> git commit -m "IGI & STRWEB contents added"
[main 89f0f82] IGI & STRWEB contents added
15 files changed, 1 insertion(+)
create mode 100644 IGI/LR1/bar/755/bin/700/paste/555/init.txt
create mode 100644 IGI/LR1/bar/755/bin/700/readme.txt
create mode 100644 IGI/LR1/baz/644/example/211/init.txt
create mode 100644 IGI/LR1/foo/333/test.txt
create mode 160000 IGI/LR1/geometric_lib
create mode 160644 IGI/LR2/README.md
create mode 160644 IGI/LR3/README.md
create mode 160644 IGI/LR4/README.md
create mode 160644 IGI/LR5/README.md
create mode 160644 IGI/README.md
create mode 160644 STRWEB/LR1/README.md
create mode 160644 STRWEB/LR2/README.md
create mode 160644 STRWEB/LR3/README.md
create mode 160644 STRWEB/LR4/README.md
create mode 160644 STRWEB/README.md
PS D:\IGI\253502_KRASOV_11> |

```

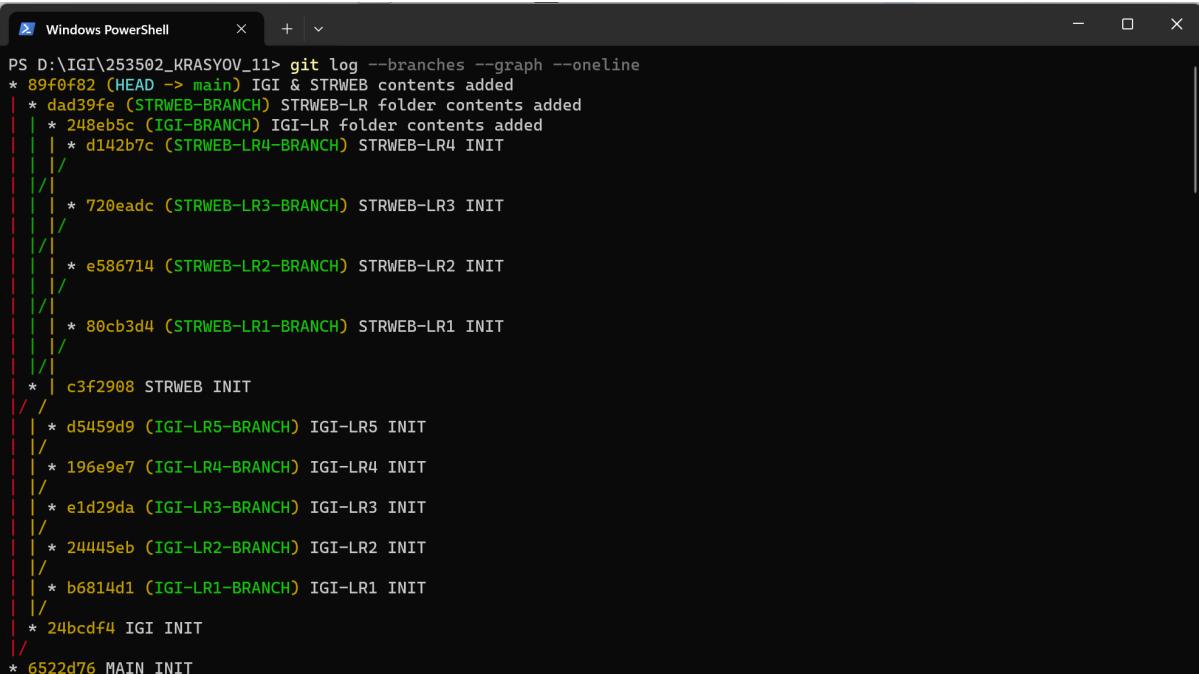
Отобразим все ветки репозитория:

```

PS D:\IGI\253502_KRASOV_11>> git status
On branch main
nothing to commit, working tree clean
PS D:\IGI\253502_KRASOV_11>> git branch
  IGI-BRANCH
  IGI-LR1-BRANCH
  IGI-LR2-BRANCH
  IGI-LR3-BRANCH
  IGI-LR4-BRANCH
  IGI-LR5-BRANCH
  STRWEB-BRANCH
  STRWEB-LR1-BRANCH
  STRWEB-LR2-BRANCH
  STRWEB-LR3-BRANCH
  STRWEB-LR4-BRANCH
* main
PS D:\IGI\253502_KRASOV_11>> |

```

- g) выведите историю коммитов: полностью и с ограничением вывода – отобрать только последние, до и после указанной даты, по автору файлов, коммитов (флаги n, since, after, until, before, author, committer, grep)
-branches -graph -oneline



```

PS D:\IGI\253502_KRASOV_11> git log --branches --graph --oneline
* 89f0f82 (HEAD -> main) IGI & STRWEB contents added
| * dad39fe (STRWEB-BRANCH) STRWEB-LR folder contents added
| | * 248eb5c (IGI-BRANCH) IGI-LR folder contents added
| | | * d142b7c (STRWEB-LR4-BRANCH) STRWEB-LR4 INIT
| | |
| | | * 720eadc (STRWEB-LR3-BRANCH) STRWEB-LR3 INIT
| | |
| | | * e586714 (STRWEB-LR2-BRANCH) STRWEB-LR2 INIT
| | |
| | | * 80cb3d4 (STRWEB-LR1-BRANCH) STRWEB-LR1 INIT
| | |
| | | * c3f2908 STRWEB INIT
| | |
| | | * d5459d9 (IGI-LR5-BRANCH) IGI-LR5 INIT
| | |
| | | * 196e9e7 (IGI-LR4-BRANCH) IGI-LR4 INIT
| | |
| | | * e1d29da (IGI-LR3-BRANCH) IGI-LR3 INIT
| | |
| | | * 24445eb (IGI-LR2-BRANCH) IGI-LR2 INIT
| | |
| | | * b6814d1 (IGI-LR1-BRANCH) IGI-LR1 INIT
| | |
| | * 24bcdf4 IGI INIT
| |
* 6522d76 MAIN INIT

```

-(n) - показывает последние коммиты с учетом указанного числа.

```
Windows PowerShell + - × PS D:\IGI\253502_KRASYOV_11> git log --branches -3 commit 89f0f82ef1af5077d54827592076f2f6f06dafe9 (HEAD -> main) Author: Lovely Paul <ppetrov228@bk.ru> Date: Fri Feb 16 18:41:41 2024 +0300 IGI & STRWEB contents added commit dad39fe84045ac19364b666f89a027f0f6c551b3 (STRWEB-BRANCH) Author: Lovely Paul <ppetrov228@bk.ru> Date: Fri Feb 16 18:33:56 2024 +0300 STRWEB-LR folder contents added commit 248eb5c937ac4f7df10d9be02fb5e810a9b07b63 (IGI-BRANCH) Author: Lovely Paul <ppetrov228@bk.ru> Date: Fri Feb 16 18:23:14 2024 +0300 IGI-LR folder contents added PS D:\IGI\253502_KRASYOV_11> git log --branches -3 --oneline 89f0f82 (HEAD -> main) IGI & STRWEB contents added dad39fe (STRWEB-BRANCH) STRWEB-LR folder contents added 248eb5c (IGI-BRANCH) IGI-LR folder contents added PS D:\IGI\253502_KRASYOV_11> |
```

—since - отображает коммиты, сделанные после указанной даты.

—until - выводит коммиты, сделанные до указанной даты.

```
Windows PowerShell + - × PS D:\IGI\253502_KRASYOV_11> git log --branches --since="Thu Feb 15" --until="Fri Feb 16" commit 89f0f82ef1af5077d54827592076f2f6f06dafe9 (HEAD -> main) Author: Lovely Paul <ppetrov228@bk.ru> Date: Fri Feb 16 18:41:41 2024 +0300 IGI & STRWEB contents added commit dad39fe84045ac19364b666f89a027f0f6c551b3 (STRWEB-BRANCH) Author: Lovely Paul <ppetrov228@bk.ru> Date: Fri Feb 16 18:33:56 2024 +0300 STRWEB-LR folder contents added commit 248eb5c937ac4f7df10d9be02fb5e810a9b07b63 (IGI-BRANCH) Author: Lovely Paul <ppetrov228@bk.ru> Date: Fri Feb 16 18:23:14 2024 +0300 IGI-LR folder contents added commit d142b7c5144ad2a8dc7af328a672bc6742e14da6 (STRWEB-LR4-BRANCH) Author: Lovely Paul <ppetrov228@bk.ru> Date: Fri Feb 16 18:12:37 2024 +0300 STRWEB-LR4 INIT commit 720eadcabaa4cdeb26f780b21476a29660b77f53f (STRWEB-LR3-BRANCH) Author: Lovely Paul <ppetrov228@bk.ru> Date: Fri Feb 16 18:11:05 2024 +0300 STRWEB-LR3 INIT commit e586714387e3e5bc46e017452fe5c366b3978931 (STRWEB-LR2-BRANCH) Author: Lovely Paul <ppetrov228@bk.ru> Date: Fri Feb 16 18:07:58 2024 +0300 STRWEB-LR2 INIT commit 80cb3d41b6c8c5999a385722d39345a9e293e859 (STRWEB-LR1-BRANCH) Author: Lovely Paul <ppetrov228@bk.ru> Date: Fri Feb 16 18:06:10 2024 +0300 STRWEB-LR1 INIT commit c3f2908a8030934084a75850cde2a6f69c5ff209 Author: Lovely Paul <ppetrov228@bk.ru>
```

```

Windows PowerShell

commit c3f2908a8030934084a75050c4e2a6f69c5ff209
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:04:29 2024 +0300

STRWEB INIT

commit d5459d25b3e316d9ee91e8ddd1d6ab88249ce (IGI-LR5-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:01:13 2024 +0300

IGI-LR5 INIT

commit 196e9e73268915b045d1696ec4596dc83d3cc02 (IGI-LR4-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 17:59:26 2024 +0300

IGI-LR4 INIT

commit e1d29da873edcc50cdf76fd461467146134909d2 (IGI-LR3-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 15:16:30 2024 +0300

IGI-LR3 INIT

commit 24445eb2e0d3237655fd9a42d75acdc98bdcd617 (IGI-LR2-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 15:12:23 2024 +0300

IGI-LR2 INIT

commit b6814d133972d2334d702740a039d793adda17d1 (IGI-LR1-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 15:09:23 2024 +0300

IGI-LR1 INIT

commit 24bcd4801419006a019c8a4381003983313cd08
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 15:07:43 2024 +0300

IGI INIT

commit 6522d7616feaf03eafabc9f1a8ddb2769a2fdc
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 15:05:40 2024 +0300

MAIN INIT
[CEND]

```

—*after* - отображает коммиты, сделанные после указанной даты и времени.
—*before* - выводит коммиты, сделанные до указанной даты и времени.

```

Windows PowerShell

PS D:\IGI\253502_KRASOV_11> git log --branches --after="Fri Feb 16 14:00" --before="Fri Feb 16 15:20"
commit e1d29da873edcc50cdf76fd461467146134909d2 (IGI-LR3-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 15:16:30 2024 +0300

IGI-LR3 INIT

commit 24445eb2e0d3237655fd9a42d75acdc98bdcd617 (IGI-LR2-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 15:12:23 2024 +0300

IGI-LR2 INIT

commit b6814d133972d2334d702740a039d793adda17d1 (IGI-LR1-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 15:09:23 2024 +0300

IGI-LR1 INIT

commit 24bcd4801419006a019c8a4381003983313cd08
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 15:07:43 2024 +0300

IGI INIT

commit 6522d7616feaf03eafabc9f1a8ddb2769a2fdc
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 15:05:40 2024 +0300

MAIN INIT
PS D:\IGI\253502_KRASOV_11> |

```

—*author* - отображает коммиты для файлов с указанным автором.

```

PS D:\IGI\253502_KRASYOV_11> git log --branches --author="Lovely Paul" -4
commit 89f0f82ef1af5077d54827592076f2f6f06dafe9 (HEAD -> main)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:41:41 2024 +0300

    IGI & STRWEB contents added

commit dad39fe84045ac19364b666f89a027f0f6c551b3 (STRWEB-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:33:56 2024 +0300

    STRWEB-LR folder contents added

commit 248eb5c937ac4f7df10d9be02fb5e810a9b07b63 (IGI-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:23:14 2024 +0300

    IGI-LR folder contents added

commit d142b7c5144ad2a8dc7af328a672bc6742e14da6 (STRWEB-LR4-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:12:37 2024 +0300

    STRWEB-LR4 INIT
PS D:\IGI\253502_KRASYOV_11> |

```

—committer - выводит коммиты, сделанные указанным коммитером, т.е. пользователем, вносящим изменения. Автор файла и коммитер могут являться разными пользователями.

```

PS D:\IGI\253502_KRASYOV_11> git log --branches --committer="Lovely Paul" --after="Fri Feb 16 17:00" --before="Fri Feb 16 18:20"
commit d142b7c5144ad2a8dc7af328a672bc6742e14da6 (STRWEB-LR4-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:12:37 2024 +0300

    STRWEB-LR4 INIT

commit 720eadcab4cdeb26f780b21476a29660b77f53f (STRWEB-LR3-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:11:05 2024 +0300

    STRWEB-LR3 INIT

commit e586714387e3e5bc46e017452fe5c366b3978931 (STRWEB-LR2-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:07:58 2024 +0300

    STRWEB-LR2 INIT

commit 80cb3d41b6c8c5999a38572d39345a9e293e859 (STRWEB-LR1-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:06:10 2024 +0300

    STRWEB-LR1 INIT

commit c3f2908a8030934084a75050c4e2a6f69c5ff209
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:04:29 2024 +0300

    STRWEB INIT

commit d5459d925b3e316d9dee91e8ddd1d6ab88249ce (IGI-LR5-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:01:13 2024 +0300

    IGI-LR5 INIT

commit 196e9e73268915b045d1696ec4596dcbb83d3cc02 (IGI-LR4-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 17:59:26 2024 +0300

    IGI-LR4 INIT
PS D:\IGI\253502_KRASYOV_11> |

```

—grep - ищет и отображает коммиты, сообщение или примечание которых содержит указанную строку.

```

PS D:\IGI\253502_KRASYOV_11> git log --branches --grep="LR3"
commit 720eadcab4cdeb26f780b21476a29660b77f53f (STRWEB-LR3-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:11:05 2024 +0300

    STRWEB-LR3 INIT

commit e1d29da873edcc50cdf76fd461467146134909d2 (IGI-LR3-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 15:16:30 2024 +0300

    IGI-LR3 INIT
PS D:\IGI\253502_KRASYOV_11> |

```

h) исследуйте флаги для git log: p , stat ,shortstat, name-only, name-status, relative-date, pretty, graph:

—p - показывает патч(изменения) для каждого коммита.

```
Windows PowerShell

PS D:\IGI\253502_KRASYOV_11> git checkout STRWEB-BRANCH
warning: unable to rmdir 'IGI/LR1/geometric_lib': Directory not empty
Switched to branch 'STRWEB-BRANCH'
PS D:\IGI\253502_KRASYOV_11> git log -p
commit dad39fe84045ac19364b666f89a027f0f6c551b3 (HEAD -> STRWEB-BRANCH)
Author: Lovely Paul <petrov228@bk.ru>
Date:   Fri Feb 16 18:33:56 2024 +0300

    STRWEB-LR folder contents added

diff --git a/STRWEB/LR1/README.md b/STRWEB/LR1/README.md
new file mode 100644
index 000000..c5a4b9b
Binary files /dev/null and b/STRWEB/LR1/README.md differ
diff --git a/STRWEB/LR2/README.md b/STRWEB/LR2/README.md
new file mode 100644
index 000000..b76eeef5
Binary files /dev/null and b/STRWEB/LR2/README.md differ
diff --git a/STRWEB/LR3/README.md b/STRWEB/LR3/README.md
new file mode 100644
index 000000..61d9dd4
Binary files /dev/null and b/STRWEB/LR3/README.md differ
diff --git a/STRWEB/LR4/README.md b/STRWEB/LR4/README.md
new file mode 100644
index 000000..445d97a
Binary files /dev/null and b/STRWEB/LR4/README.md differ

commit c3f2908a8030934084a75050c4e2a6f69c5ff209
Author: Lovely Paul <petrov228@bk.ru>
Date:   Fri Feb 16 18:04:29 2024 +0300

    STRWEB INIT

diff --git a/README.md b/README.md
new file mode 100644
index 000000..195ee35
Binary files /dev/null and b/README.md differ

commit 6522d7616fea03eaefabc9f1a8ddbb2769a2fdc
Author: Lovely Paul <petrov228@bk.ru>
Date:   Fri Feb 16 15:05:40 2024 +0300

    MAIN INIT

diff --git a/README.md b/README.md
new file mode 100644
index 000000..fbe9a85
Binary files /dev/null and b/README.md differ
[END]
```

—stat - показывает статистику изменённых файлов для каждого коммита.

```
Windows PowerShell

PS D:\IGI\253502_KRASYOV_11> git log --stat
commit dad39fe84045ac19364b666f89a027f0f6c551b3 (HEAD -> STRWEB-BRANCH)
Author: Lovely Paul <petrov228@bk.ru>
Date:   Fri Feb 16 18:33:56 2024 +0300

    STRWEB-LR folder contents added

STRWEB/LR1/README.md | Bin 0 -> 40 bytes
STRWEB/LR2/README.md | Bin 0 -> 40 bytes
STRWEB/LR3/README.md | Bin 0 -> 40 bytes
STRWEB/LR4/README.md | Bin 0 -> 40 bytes
4 files changed, 0 insertions(+), 0 deletions(-)

commit c3f2908a8030934084a75050c4e2a6f69c5ff209
Author: Lovely Paul <petrov228@bk.ru>
Date:   Fri Feb 16 18:04:29 2024 +0300

    STRWEB INIT

STRWEB/README.md | Bin 0 -> 32 bytes
1 file changed, 0 insertions(+), 0 deletions(-)

commit 6522d7616fea03eaefabc9f1a8ddbb2769a2fdc
Author: Lovely Paul <petrov228@bk.ru>
Date:   Fri Feb 16 15:05:40 2024 +0300

    MAIN INIT

README.md | Bin 0 -> 24 bytes
1 file changed, 0 insertions(+), 0 deletions(-)
PS D:\IGI\253502_KRASYOV_11> |
```

--shortstat - отображает только строку с количеством изменений/вставок/удалений для команды **--stat**.

```
Windows PowerShell
PS D:\IGI\253502_KRASOV_11> git log --shortstat
commit dad39fe84045ac19364b666f89a027f0f6c551b3 (HEAD -> STRWEB-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:33:56 2024 +0300

    STRWEB-LR folder contents added

    4 files changed, 0 insertions(+), 0 deletions(-)

commit c3f2908a8030934084a75050c4e2a6f69c5ff209
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:04:29 2024 +0300

    STRWEB INIT

    1 file changed, 0 insertions(+), 0 deletions(-)

commit 6522d7616feaf03eafabc9f1a8ddb2769a2fdc
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 15:05:40 2024 +0300

    MAIN INIT

    1 file changed, 0 insertions(+), 0 deletions(-)

PS D:\IGI\253502_KRASOV_11> |
```

--name-only - показывает список изменённых файлов после информации о коммите.

```
Windows PowerShell
PS D:\IGI\253502_KRASOV_11> git log --name-only
commit dad39fe84045ac19364b666f89a027f0f6c551b3 (HEAD -> STRWEB-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:33:56 2024 +0300

    STRWEB-LR folder contents added

STRWEB/LR1/README.md
STRWEB/LR2/README.md
STRWEB/LR3/README.md
STRWEB/LR4/README.md

commit c3f2908a8030934084a75050c4e2a6f69c5ff209
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:04:29 2024 +0300

    STRWEB INIT

STRWEB/README.md

commit 6522d7616feaf03eafabc9f1a8ddb2769a2fdc
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 15:05:40 2024 +0300

    MAIN INIT

README.md
PS D:\IGI\253502_KRASOV_11> |
```

--name-status - показывает список файлов, которые добавлены/изменены/удалены.

```
Windows PowerShell
PS D:\IGI\253502_KRASOV_11> git log --name-status
commit dad39fe84045ac19364b666f89a027f0f6c551b3 (HEAD -> STRWEB-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:33:56 2024 +0300

    STRWEB-LR folder contents added

A     STRWEB/LR1/README.md
A     STRWEB/LR2/README.md
A     STRWEB/LR3/README.md
A     STRWEB/LR4/README.md

commit c3f2908a8030934084a75050c4e2a6f69c5ff209
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:04:29 2024 +0300

    STRWEB INIT

A     STRWEB/README.md

commit 6522d7616feaf03eafabc9f1a8ddb2769a2fdc
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 15:05:40 2024 +0300

    MAIN INIT

A     README.md
PS D:\IGI\253502_KRASOV_11> |
```

--relative-date - отображает дату в относительном формате (например, «2 weeks ago») вместо стандартного формата даты.

```
Windows PowerShell + 
PS D:\IGI\253502_KRASOV_11> git log --relative-date
commit dad39fe84045ac19364b666f89a027f0f6c551b3 (HEAD -> STRWEB-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   28 minutes ago

    STRWEB-LR folder contents added

commit c3f2908a8030934084a75050c4e2a6f69c5ff209
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   58 minutes ago

    STRWEB INIT

commit 6522d7616feaf03eafabcd9f1a8ddb2769a2fdc
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   4 hours ago

    MAIN INIT
PS D:\IGI\253502_KRASOV_11> |
```

-pretty - Показывает коммиты в альтернативном формате.

```
Windows PowerShell + 
PS D:\IGI\253502_KRASOV_11> git log --pretty
commit dad39fe84045ac19364b666f89a027f0f6c551b3 (HEAD -> STRWEB-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:33:56 2024 +0300

    STRWEB-LR folder contents added

commit c3f2908a8030934084a75050c4e2a6f69c5ff209
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 18:04:29 2024 +0300

    STRWEB INIT

commit 6522d7616feaf03eafabcd9f1a8ddb2769a2fdc
Author: Lovely Paul <ppetrov228@bk.ru>
Date:   Fri Feb 16 15:05:40 2024 +0300

    MAIN INIT
PS D:\IGI\253502_KRASOV_11> git log --pretty=short
commit dad39fe84045ac19364b666f89a027f0f6c551b3 (HEAD -> STRWEB-BRANCH)
Author: Lovely Paul <ppetrov228@bk.ru>

    STRWEB-LR folder contents added

commit c3f2908a8030934084a75050c4e2a6f69c5ff209
Author: Lovely Paul <ppetrov228@bk.ru>

    STRWEB INIT

commit 6522d7616feaf03eafabcd9f1a8ddb2769a2fdc
Author: Lovely Paul <ppetrov228@bk.ru>

    MAIN INIT
PS D:\IGI\253502_KRASOV_11> git log --pretty=oneline
dad39fe84045ac19364b666f89a027f0f6c551b3 (HEAD -> STRWEB-BRANCH) STRWEB-LR folder contents added
c3f2908a8030934084a75050c4e2a6f69c5ff209 STRWEB INIT
6522d7616feaf03eafabcd9f1a8ddb2769a2fdc MAIN INIT
PS D:\IGI\253502_KRASOV_11> |
```

--graph - отображает ASCII с ветвлениями и историей слияний.

```
Windows PowerShell + 
PS D:\IGI\253502_KRASOV_11> git log --graph
* commit dad39fe84045ac19364b666f89a027f0f6c551b3 (HEAD -> STRWEB-BRANCH)
| Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 18:33:56 2024 +0300
|
|     STRWEB-LR folder contents added
|
* commit c3f2908a8030934084a75050c4e2a6f69c5ff209
| Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 18:04:29 2024 +0300
|
|     STRWEB INIT
|
* commit 6522d7616feaf03eafabcd9f1a8ddb2769a2fdc
| Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 15:05:40 2024 +0300
|
|     MAIN INIT
PS D:\IGI\253502_KRASOV_11> |
```

i) найдите разницу в изменениях для каждого коммита:

```
Windows PowerShell
PS D:\IGI\253502_KRASOV_11> git log --branches -p --oneline
89f0f82 (HEAD -> main) IGI & STRWEB contents added
diff --git a/IGI/LR1/bar/755/bin/700/paste/555/init.txt b/IGI/LR1/bar/755/bin/700/paste/555/init.txt
new file mode 100644
index 000000..fa9a087
Binary files /dev/null and b/IGI/LR1/bar/755/bin/700/paste/555/init.txt differ
diff --git a/IGI/LR1/bar/755/bin/700/readme.txt b/IGI/LR1/bar/755/bin/700/readme.txt
new file mode 100644
index 000000..26688b5
Binary files /dev/null and b/IGI/LR1/bar/755/bin/700/readme.txt differ
diff --git a/IGI/LR1/baz/644/example/211/init.txt b/IGI/LR1/baz/644/example/211/init.txt
new file mode 100644
index 000000..58d5f5b
Binary files /dev/null and b/IGI/LR1/baz/644/example/211/init.txt differ
diff --git a/IGI/LR1/foo/333/test.txt b/IGI/LR1/foo/333/test.txt
new file mode 100644
index 000000..27093f2
Binary files /dev/null and b/IGI/LR1/foo/333/test.txt differ
diff --git a/IGI/LR1/geometric_lib b/IGI/LR1/geometric_lib
new file mode 160000
index 000000..5dc3773
--- /dev/null
+++ b/IGI/LR1/geometric_lib
@@ -0,0 +1 @@
+Subproject commit 5dc3773e453632085d0116444301c4268b35bbfd
diff --git a/IGI/LR2/README.md b/IGI/LR2/README.md
new file mode 100644
index 000000..124346f
Binary files /dev/null and b/IGI/LR2/README.md differ
diff --git a/IGI/LR3/README.md b/IGI/LR3/README.md
new file mode 100644
index 000000..eca9524
Binary files /dev/null and b/IGI/LR3/README.md differ
diff --git a/IGI/LR4/README.md b/IGI/LR4/README.md
new file mode 100644
index 000000..335d4a8
Binary files /dev/null and b/IGI/LR4/README.md differ
diff --git a/IGI/LR5/README.md b/IGI/LR5/README.md
new file mode 100644
index 000000..312d845
Binary files /dev/null and b/IGI/LR5/README.md differ
diff --git a/IGI/README.md b/IGI/README.md
new file mode 100644
index 000000..61700e8
Binary files /dev/null and b/IGI/README.md differ
```

```
Windows PowerShell
PS D:\STRWEB\LR1> git log --branches -p --oneline
diff --git a/STRWEB/LR1/README.md b/STRWEB/LR1/README.md
new file mode 100644
index 000000..c5a4b9b
Binary files /dev/null and b/STRWEB/LR1/README.md differ
diff --git a/STRWEB/LR2/README.md b/STRWEB/LR2/README.md
new file mode 100644
index 000000..b76eeef5
Binary files /dev/null and b/STRWEB/LR2/README.md differ
diff --git a/STRWEB/LR3/README.md b/STRWEB/LR3/README.md
new file mode 100644
index 000000..61d9dd4
Binary files /dev/null and b/STRWEB/LR3/README.md differ
diff --git a/STRWEB/LR4/README.md b/STRWEB/LR4/README.md
new file mode 100644
index 000000..445d97a
Binary files /dev/null and b/STRWEB/LR4/README.md differ
diff --git a/STRWEB/README.md b/STRWEB/README.md
new file mode 100644
index 000000..000000
Binary files /dev/null and b/STRWEB/README.md differ
dad39fc (STRWEB-BRANCH) STRWEB-LR folder contents added
diff --git a/STRWEB/LR1/README.md b/STRWEB/LR1/README.md
new file mode 100644
index 000000..c5a4b9b
Binary files /dev/null and b/STRWEB/LR1/README.md differ
diff --git a/STRWEB/LR2/README.md b/STRWEB/LR2/README.md
new file mode 100644
index 000000..b76eeef5
Binary files /dev/null and b/STRWEB/LR2/README.md differ
diff --git a/STRWEB/LR3/README.md b/STRWEB/LR3/README.md
new file mode 100644
index 000000..61d9dd4
Binary files /dev/null and b/STRWEB/LR3/README.md differ
diff --git a/STRWEB/LR4/README.md b/STRWEB/LR4/README.md
new file mode 100644
index 000000..445d97a
Binary files /dev/null and b/STRWEB/LR4/README.md differ
24eb5c (IGI-BRANCH) IGI-LR folder contents added
diff --git a/IGI/LR1/bar/755/bin/700/paste/555/init.txt b/IGI/LR1/bar/755/bin/700/paste/555/init.txt
new file mode 100644
index 000000..fa9a087
Binary files /dev/null and b/IGI/LR1/bar/755/bin/700/paste/555/init.txt differ
diff --git a/IGI/LR1/bar/755/bin/700/readme.txt b/IGI/LR1/bar/755/bin/700/readme.txt
new file mode 100644
index 000000..26688b5
```

```
Windows PowerShell + ×
Binary files /dev/null and b/IGI/LR1/bar/755/bin/700/readme.txt differ
diff --git a/IGI/LR1/baz/644/example/211/init.txt b/IGI/LR1/baz/644/example/211/init.txt
new file mode 100644
index 000000..58d5f5b
Binary files /dev/null and b/IGI/LR1/baz/644/example/211/init.txt differ
diff --git a/IGI/LR1/foo/333/test.txt b/IGI/LR1/foo/333/test.txt
new file mode 100644
index 000000..27093f2
Binary files /dev/null and b/IGI/LR1/foo/333/test.txt differ
diff --git a/IGI/LR1/geometric.lib b/IGI/LR1/geometric.lib
new file mode 160000
index 000000..5dc3773
--- /dev/null
+++ b/IGI/LR1/geometric.lib
@@ -0,0 +1 @@
+Subproject commit 5dc3773e453632085d0116444301c4268b35bbfd
diff --git a/IGI/LR2/README.md b/IGI/LR2/README.md
new file mode 100644
index 000000..124346f
Binary files /dev/null and b/IGI/LR2/README.md differ
diff --git a/IGI/LR3/README.md b/IGI/LR3/README.md
new file mode 100644
index 000000..eca9524
Binary files /dev/null and b/IGI/LR3/README.md differ
diff --git a/IGI/LR4/README.md b/IGI/LR4/README.md
new file mode 100644
index 000000..335d4a8
Binary files /dev/null and b/IGI/LR4/README.md differ
diff --git a/IGI/LR5/README.md b/IGI/LR5/README.md
new file mode 100644
index 000000..312d845
Binary files /dev/null and b/IGI/LR5/README.md differ
d142b7c (STRWEB-LR4-BRANCH) STRWEB-LR4 INIT
diff --git a/STRWEB/LR4/README.md b/STRWEB/LR4/README.md
new file mode 100644
index 000000..445d97a
Binary files /dev/null and b/STRWEB/LR4/README.md differ
720eade (STRWEB-LR3-BRANCH) STRWEB-LR3 INIT
diff --git a/STRWEB/LR3/README.md b/STRWEB/LR3/README.md
new file mode 100644
index 000000..61d9dd4
Binary files /dev/null and b/STRWEB/LR3/README.md differ
e586714 (STRWEB-LR2-BRANCH) STRWEB-LR2 INIT
diff --git a/STRWEB/LR2/README.md b/STRWEB/LR2/README.md
new file mode 100644
Binary files /dev/null and b/STRWEB/LR4/README.md differ
720eade (STRWEB-LR3-BRANCH) STRWEB-LR3 INIT
diff --git a/STRWEB/LR3/README.md b/STRWEB/LR3/README.md
new file mode 100644
index 000000..61d9dd4
Binary files /dev/null and b/STRWEB/LR3/README.md differ
e586714 (STRWEB-LR2-BRANCH) STRWEB-LR2 INIT
diff --git a/STRWEB/LR2/README.md b/STRWEB/LR2/README.md
new file mode 100644
```

```
Windows PowerShell + ×
Binary files /dev/null and b/STRWEB/LR4/README.md differ
720eade (STRWEB-LR3-BRANCH) STRWEB-LR3 INIT
diff --git a/STRWEB/LR3/README.md b/STRWEB/LR3/README.md
new file mode 100644
index 000000..61d9dd4
Binary files /dev/null and b/STRWEB/LR3/README.md differ
e586714 (STRWEB-LR2-BRANCH) STRWEB-LR2 INIT
diff --git a/STRWEB/LR2/README.md b/STRWEB/LR2/README.md
new file mode 100644
index 000000..b76eeef5
Binary files /dev/null and b/STRWEB/LR2/README.md differ
80cb3d4 (STRWEB-LR1-BRANCH) STRWEB-LR1 INIT
diff --git a/STRWEB/LR1/README.md b/STRWEB/LR1/README.md
new file mode 100644
index 000000..c5a4b9b
Binary files /dev/null and b/STRWEB/LR1/README.md differ
c3f2908 STRWEB INIT
diff --git a/STRWEB/README.md b/STRWEB/README.md
new file mode 100644
index 000000..195ee35
Binary files /dev/null and b/STRWEB/README.md differ
d5159d9 (IGI-LR5-BRANCH) IGI-LR5 INIT
diff --git a/IGI/LR5/README.md b/IGI/LR5/README.md
new file mode 100644
index 000000..312d845
Binary files /dev/null and b/IGI/LR5/README.md differ
196ee9e7 (IGI-LR4-BRANCH) IGI-LR4 INIT
diff --git a/IGI/LR4/README.md b/IGI/LR4/README.md
new file mode 100644
index 000000..335d4a8
Binary files /dev/null and b/IGI/LR4/README.md differ
e1d29da (IGI-LR3-BRANCH) IGI-LR3 INIT
diff --git a/IGI/LR3/README.md b/IGI/LR3/README.md
new file mode 100644
index 000000..eca9524
Binary files /dev/null and b/IGI/LR3/README.md differ
24445eb (IGI-LR2-BRANCH) IGI-LR2 INIT
diff --git a/IGI/LR2/README.md b/IGI/LR2/README.md
new file mode 100644
index 000000..124346f
Binary files /dev/null and b/IGI/LR2/README.md differ
b6814d1 (IGI-LR1-BRANCH) IGI-LR1 INIT
diff --git a/IGI/LR1/bar/755/bin/700/paste/555/init.txt b/IGI/LR1/bar/755/bin/700/paste/555/init.txt
new file mode 100644
index 000000..fa9a087
```

```

Binary files /dev/null and b/IGI/LR1/bar/755/bin/700/paste/555/init.txt differ
diff --git a/IGI/LR1/bar/755/bin/700/readme.txt b/IGI/LR1/bar/755/bin/700/readme.txt
new file mode 100644
index 000000..2668b85
Binary files /dev/null and b/IGI/LR1/bar/755/bin/700/readme.txt differ
diff --git a/IGI/LR1/baz/644/example/211/init.txt b/IGI/LR1/baz/644/example/211/init.txt
new file mode 100644
index 000000..58d5f5b
Binary files /dev/null and b/IGI/LR1/baz/644/example/211/init.txt differ
diff --git a/IGI/LR1/foo/333/test.txt b/IGI/LR1/foo/333/test.txt
new file mode 100644
index 000000..27093f2
Binary files /dev/null and b/IGI/LR1/foo/333/test.txt differ
diff --git a/IGI/LR1/geometric_lib b/IGI/LR1/geometric_lib
new file mode 160000
index 000000..5dc3773
--- /dev/null
+++ b/IGI/LR1/geometric_lib
@@ -0,0 +1 @@
+Subproject commit 5dc3773e453632085d0116444301c4268b35bbfd
24bcd4 IGI INIT
diff --git a/IGI/README.md b/IGI/README.md
new file mode 100644
index 000000..6170e8
Binary files /dev/null and b/IGI/README.md differ
6522d76 MAIN INIT
diff --git a/README.md b/README.md
new file mode 100644
index 000000..fbe9a5
Binary files /dev/null and b/README.md differ
[END]

```

- j) создайте новый файл test.txt и вставьте в него строчку 'номер варианта'. затем сделайте коммит и отмените его:

```

Windows PowerShell
PS D:\IGI\253502_KRASYOV_11> echo Номер варианта: 11 > test.txt
PS D:\IGI\253502_KRASYOV_11> git status
On branch main
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    test.txt

nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASYOV_11> git add test.txt
PS D:\IGI\253502_KRASYOV_11> git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   test.txt

PS D:\IGI\253502_KRASYOV_11> git commit -m "Test file added"
[main e4fb52d] Test file added
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 test.txt
PS D:\IGI\253502_KRASYOV_11> git log --pretty=format:%h
e4fb52d
89f0f82
6522d76
PS D:\IGI\253502_KRASYOV_11> git revert e4fb52d
[main e2ac5d8] Revert "Test file added"
 1 file changed, 0 insertions(+), 0 deletions(-)
 delete mode 100644 test.txt
PS D:\IGI\253502_KRASYOV_11> |

```

- k) проиндексируйте файл в вашем Git-репозитории, затем отмените его индексацию:

```

Windows PowerShell
PS D:\IGI\253502_KRASYOV_11> echo HelloHTML > index.html
PS D:\IGI\253502_KRASYOV_11> git status
On branch main
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    index.html

nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASYOV_11> git add index.html
PS D:\IGI\253502_KRASYOV_11> git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   index.html

PS D:\IGI\253502_KRASYOV_11> git restore --staged index.html
PS D:\IGI\253502_KRASYOV_11> git status
On branch main
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    index.html

nothing added to commit but untracked files present (use "git add" to track)
PS D:\IGI\253502_KRASYOV_11> |

```

- l) внесите изменения в файл в вашем Git-репозитории и затем верните его в исходное состояние:

Добавим файл в репозиторий:

```
Windows PowerShell

PS D:\IGI\253502_KRASOV_11> git add index.html
PS D:\IGI\253502_KRASOV_11> git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   index.html

PS D:\IGI\253502_KRASOV_11> git commit -m "added file to change"
[main eebb92f] added file to change
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 index.html
```

Изменим содержимое и вернем обратно:

```
PS D:\IGI\253502_KRASOV_11> echo CHANGED! > index.html
PS D:\IGI\253502_KRASOV_11> more index.html
CHANGED!

PS D:\IGI\253502_KRASOV_11> git status
On branch main
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
    (use "git restore <file>..." to discard changes in working directory)
      modified:   index.html

no changes added to commit (use "git add" and/or "git commit -a")
PS D:\IGI\253502_KRASOV_11> git restore index.html
PS D:\IGI\253502_KRASOV_11> git status
On branch main
nothing to commit, working tree clean
PS D:\IGI\253502_KRASOV_11> more index.html
HelloHTML

PS D:\IGI\253502_KRASOV_11> |
```

Задание 5. Выполните следующие действия с удаленным репозиторием:

- a) создайте удаленный репозиторий (на github.com):

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository](#).

Required fields are marked with an asterisk (*).

Owner * **Repository name ***

 BOYnextDoor / IGI-LABS IGI-LABS is available.

Great repository names are short and memorable. Need inspiration? How about [automatic-dollop](#) ?

Description (optional)

Public Anyone on the internet can see this repository. You choose who can commit.

Private You choose who can see and commit to this repository.

Initialize this repository with:

Add a README file This is where you can write a long description for your project. [Learn more about READMEs](#).

Add .gitignore

.gitignore template: [None](#)

Choose which files not to track from a list of templates. [Learn more about ignoring files](#).

Choose a license

License: [None](#)

A license tells others what they can and can't do with your code. [Learn more about licenses](#).

ⓘ You are creating a private repository in your personal account.

Create repository

- b) просмотрите информацию о нем, внесите изменения и опять просмотрите (remote, fetch).

```
Windows PowerShell

PS D:\IGI\253502_KRASOV_11> git remote add origin https://github.com/B0YnextDoor/IGI-LABS.git
PS D:\IGI\253502_KRASOV_11> git remote show origin
* remote origin
  Fetch URL: https://github.com/B0YnextDoor/IGI-LABS.git
  Push URL: https://github.com/B0YnextDoor/IGI-LABS.git
    HEAD branch: (unknown)
PS D:\IGI\253502_KRASOV_11> git fetch otigin
fatal: 'otigin' does not appear to be a git repository
fatal: Could not read from remote repository.

Please make sure you have the correct access rights
and the repository exists.
PS D:\IGI\253502_KRASOV_11> git fetch origin
PS D:\IGI\253502_KRASOV_11>
```

Добавим данные с локального репозитория на удаленный:

```
Windows PowerShell

PS D:\IGI\253502_KRASOV_11> git push origin main
Enumerating objects: 49, done.
Counting objects: 100% (49/49), done.
Delta compression using up to 8 threads
Compressing objects: 100% (12/12), done.
Writing objects: 100% (49/49), 3.03 KiB | 1.52 MiB/s, done.
Total 49 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), done.
To https://github.com/B0YnextDoor/IGI-LABS.git
 * [new branch]      main -> main
PS D:\IGI\253502_KRASOV_11> git push origin IGI-BRANCH
Enumerating objects: 33, done.
Counting objects: 100% (33/33), done.
Delta compression using up to 8 threads
Compressing objects: 100% (7/7), done.
Writing objects: 100% (32/32), 1.85 KiB | 1.85 MiB/s, done.
Total 32 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'IGI-BRANCH' on GitHub by visiting:
remote:   https://github.com/B0YnextDoor/IGI-LABS/pull/new/IGI-BRANCH
remote:
To https://github.com/B0YnextDoor/IGI-LABS.git
 * [new branch]      IGI-BRANCH -> IGI-BRANCH
PS D:\IGI\253502_KRASOV_11>
```

```
Windows PowerShell

PS D:\IGI\253502_KRASOV_11> git push origin IGI-LR1-BRANCH
Enumerating objects: 22, done.
Counting objects: 100% (22/22), done.
Delta compression using up to 8 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (20/20), 1.09 KiB | 1.09 MiB/s, done.
Total 20 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'IGI-LR1-BRANCH' on GitHub by visiting:
remote:   https://github.com/B0YnextDoor/IGI-LABS/pull/new/IGI-LR1-BRANCH
remote:
To https://github.com/B0YnextDoor/IGI-LABS.git
 * [new branch]      IGI-LR1-BRANCH -> IGI-LR1-BRANCH
PS D:\IGI\253502_KRASOV_11> git push origin IGI-LR2-BRANCH
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (5/5), 435 bytes | 435.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'IGI-LR2-BRANCH' on GitHub by visiting:
remote:   https://github.com/B0YnextDoor/IGI-LABS/pull/new/IGI-LR2-BRANCH
remote:
To https://github.com/B0YnextDoor/IGI-LABS.git
 * [new branch]      IGI-LR2-BRANCH -> IGI-LR2-BRANCH
PS D:\IGI\253502_KRASOV_11>
```

```
PS D:\IGI\253502_KRASYOV_11> git push origin IGI-LR3-BRANCH
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (5/5), 435 bytes | 435.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'IGI-LR3-BRANCH' on GitHub by visiting:
remote:   https://github.com/B0YnextDoor/IGI-LABS/pull/new/IGI-LR3-BRANCH
remote:
To https://github.com/B0YnextDoor/IGI-LABS.git
 * [new branch]      IGI-LR3-BRANCH -> IGI-LR3-BRANCH
PS D:\IGI\253502_KRASYOV_11> git push origin IGI-LR4-BRANCH
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (5/5), 434 bytes | 434.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'IGI-LR4-BRANCH' on GitHub by visiting:
remote:   https://github.com/B0YnextDoor/IGI-LABS/pull/new/IGI-LR4-BRANCH
remote:
To https://github.com/B0YnextDoor/IGI-LABS.git
 * [new branch]      IGI-LR4-BRANCH -> IGI-LR4-BRANCH
PS D:\IGI\253502_KRASYOV_11> |
```

```
PS D:\IGI\253502_KRASYOV_11> git push origin IGI-LR5-BRANCH
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (5/5), 434 bytes | 434.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'IGI-LR5-BRANCH' on GitHub by visiting:
remote:   https://github.com/B0YnextDoor/IGI-LABS/pull/new/IGI-LR5-BRANCH
remote:
To https://github.com/B0YnextDoor/IGI-LABS.git
 * [new branch]      IGI-LR5-BRANCH -> IGI-LR5-BRANCH
PS D:\IGI\253502_KRASYOV_11> |
```

```
PS D:\IGI\253502_KRASYOV_11> git push origin STRWEB-BRANCH
Enumerating objects: 16, done.
Counting objects: 100% (16/16), done.
Delta compression using up to 8 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (15/15), 1.11 KiB | 1.11 MiB/s, done.
Total 15 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'STRWEB-BRANCH' on GitHub by visiting:
remote:   https://github.com/B0YnextDoor/IGI-LABS/pull/new/STRWEB-BRANCH
remote:
To https://github.com/B0YnextDoor/IGI-LABS.git
 * [new branch]      STRWEB-BRANCH -> STRWEB-BRANCH
PS D:\IGI\253502_KRASYOV_11> git push origin STRWEB-LR1-BRANCH
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (5/5), 445 bytes | 445.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'STRWEB-LR1-BRANCH' on GitHub by visiting:
remote:   https://github.com/B0YnextDoor/IGI-LABS/pull/new/STRWEB-LR1-BRANCH
remote:
To https://github.com/B0YnextDoor/IGI-LABS.git
 * [new branch]      STRWEB-LR1-BRANCH -> STRWEB-LR1-BRANCH
PS D:\IGI\253502_KRASYOV_11> |
```

```
Windows PowerShell
PS D:\IGI\253502_KRASYOV_11> git push origin STRWEB-LR2-BRANCH
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (5/5), 446 bytes | 446.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'STRWEB-LR2-BRANCH' on GitHub by visiting:
remote:   https://github.com/B0YnextDoor/IGI-LABS/pull/new/STRWEB-LR2-BRANCH
remote:
To https://github.com/B0YnextDoor/IGI-LABS.git
 * [new branch]      STRWEB-LR2-BRANCH -> STRWEB-LR2-BRANCH
PS D:\IGI\253502_KRASYOV_11> git push origin STRWEB-LR3-BRANCH
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (5/5), 447 bytes | 447.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'STRWEB-LR3-BRANCH' on GitHub by visiting:
remote:   https://github.com/B0YnextDoor/IGI-LABS/pull/new/STRWEB-LR3-BRANCH
remote:
To https://github.com/B0YnextDoor/IGI-LABS.git
 * [new branch]      STRWEB-LR3-BRANCH -> STRWEB-LR3-BRANCH
PS D:\IGI\253502_KRASYOV_11> git push origin STRWEB-LR4-BRANCH
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (5/5), 448 bytes | 448.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'STRWEB-LR4-BRANCH' on GitHub by visiting:
remote:   https://github.com/B0YnextDoor/IGI-LABS/pull/new/STRWEB-LR4-BRANCH
remote:
To https://github.com/B0YnextDoor/IGI-LABS.git
 * [new branch]      STRWEB-LR4-BRANCH -> STRWEB-LR4-BRANCH
PS D:\IGI\253502_KRASYOV_11> |
```

Повторно посмотрим информацию об удаленном репозитории:

```
Windows PowerShell
PS D:\IGI\253502_KRASYOV_11> git remote show origin
* remote origin
  Fetch URL: https://github.com/B0YnextDoor/IGI-LABS.git
  Push URL: https://github.com/B0YnextDoor/IGI-LABS.git
  HEAD branch: main
  Remote branches:
    IGI-BRANCH      tracked
    IGI-LR1-BRANCH  tracked
    IGI-LR2-BRANCH  tracked
    IGI-LR3-BRANCH  tracked
    IGI-LR4-BRANCH  tracked
    IGI-LR5-BRANCH  tracked
    STRWEB-BRANCH   tracked
    STRWEB-LR1-BRANCH tracked
    STRWEB-LR2-BRANCH tracked
    STRWEB-LR3-BRANCH tracked
    STRWEB-LR4-BRANCH tracked
    main            tracked
  Local refs configured for 'git push':
    IGI-BRANCH      pushes to IGI-BRANCH      (up to date)
    IGI-LR1-BRANCH  pushes to IGI-LR1-BRANCH  (up to date)
    IGI-LR2-BRANCH  pushes to IGI-LR2-BRANCH  (up to date)
    IGI-LR3-BRANCH  pushes to IGI-LR3-BRANCH  (up to date)
    IGI-LR4-BRANCH  pushes to IGI-LR4-BRANCH  (up to date)
    IGI-LR5-BRANCH  pushes to IGI-LR5-BRANCH  (up to date)
    STRWEB-BRANCH   pushes to STRWEB-BRANCH   (up to date)
    STRWEB-LR1-BRANCH pushes to STRWEB-LR1-BRANCH (up to date)
    STRWEB-LR2-BRANCH pushes to STRWEB-LR2-BRANCH (up to date)
    STRWEB-LR3-BRANCH pushes to STRWEB-LR3-BRANCH (up to date)
    STRWEB-LR4-BRANCH pushes to STRWEB-LR4-BRANCH (up to date)
    main            pushes to main           (up to date)
PS D:\IGI\253502_KRASYOV_11> git fetch origin
PS D:\IGI\253502_KRASYOV_11> |
```

c) измените несколько файлов в вашем проекте и перенесите их в удаленный репозиторий:

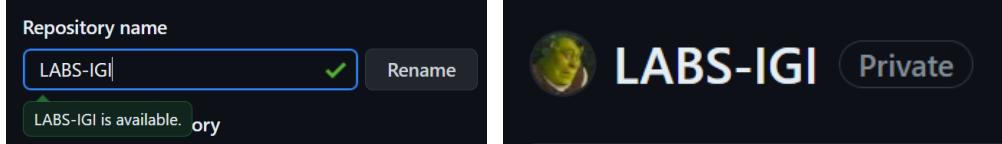
```
Windows PowerShell x + - x
PS D:\IGI\253502_KRASOV_11> echo CHANGED README > README.md
PS D:\IGI\253502_KRASOV_11> echo CHANGED HTML > index.html
PS D:\IGI\253502_KRASOV_11> git status
On branch main
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    modified:   README.md
    modified:   index.html

no changes added to commit (use "git add" and/or "git commit -a")
PS D:\IGI\253502_KRASOV_11> git add .
PS D:\IGI\253502_KRASOV_11> git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   README.md
    modified:   index.html

PS D:\IGI\253502_KRASOV_11> git commit -m "Changes for the remote repo"
[main c12830b] Changes for the remote repo
 2 files changed, 0 insertions(+), 0 deletions(-)
PS D:\IGI\253502_KRASOV_11> |
```

```
Windows PowerShell x + - x
PS D:\IGI\253502_KRASOV_11> git push origin main
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (4/4), 420 bytes | 420.00 KiB/s, done.
Total 4 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/B0YnextDoor/IGI-LABS.git
 eebb92f..c12830b  main -> main
PS D:\IGI\253502_KRASOV_11> |
```

d) переименуйте свой удаленный репозиторий:



Повторно добавим его к локальному:

```
Windows PowerShell x + - x
PS D:\IGI\253502_KRASOV_11> git remote remove origin
PS D:\IGI\253502_KRASOV_11> git remote add origin https://github.com/B0YnextDoor/LABS-IGI
PS D:\IGI\253502_KRASOV_11> git remote -v
origin https://github.com/B0YnextDoor/LABS-IGI (fetch)
origin https://github.com/B0YnextDoor/LABS-IGI (push)
PS D:\IGI\253502_KRASOV_11> git remote show origin
* remote origin
  Fetch URL: https://github.com/B0YnextDoor/LABS-IGI
  Push URL: https://github.com/B0YnextDoor/LABS-IGI
  HEAD branch: main
  Remote branches:
    IGI-BRANCH      new (next fetch will store in remotes/origin)
    IGI-LR1-BRANCH  new (next fetch will store in remotes/origin)
    IGI-LR2-BRANCH  new (next fetch will store in remotes/origin)
    IGI-LR3-BRANCH  new (next fetch will store in remotes/origin)
    IGI-LR4-BRANCH  new (next fetch will store in remotes/origin)
    IGI-LR5-BRANCH  new (next fetch will store in remotes/origin)
    STRWEB-BRANCH   new (next fetch will store in remotes/origin)
    STRWEB-LR1-BRANCH new (next fetch will store in remotes/origin)
    STRWEB-LR2-BRANCH new (next fetch will store in remotes/origin)
    STRWEB-LR3-BRANCH new (next fetch will store in remotes/origin)
    STRWEB-LR4-BRANCH new (next fetch will store in remotes/origin)
    main            new (next fetch will store in remotes/origin)
  Local refs configured for 'git push':
    IGI-BRANCH      pushes to IGI-BRANCH      (up to date)
    IGI-LR1-BRANCH  pushes to IGI-LR1-BRANCH  (up to date)
    IGI-LR2-BRANCH  pushes to IGI-LR2-BRANCH  (up to date)
    IGI-LR3-BRANCH  pushes to IGI-LR3-BRANCH  (up to date)
    IGI-LR4-BRANCH  pushes to IGI-LR4-BRANCH  (up to date)
    IGI-LR5-BRANCH  pushes to IGI-LR5-BRANCH  (up to date)
    STRWEB-BRANCH   pushes to STRWEB-BRANCH   (up to date)
    STRWEB-LR1-BRANCH pushes to STRWEB-LR1-BRANCH (up to date)
    STRWEB-LR2-BRANCH pushes to STRWEB-LR2-BRANCH (up to date)
    STRWEB-LR3-BRANCH pushes to STRWEB-LR3-BRANCH (up to date)
    STRWEB-LR4-BRANCH pushes to STRWEB-LR4-BRANCH (up to date)
    main            pushes to main            (up to date)
PS D:\IGI\253502_KRASOV_11> |
```

Переименуем репозиторий:

```

PS D:\IGI\253502_KRASYOV_11> git remote rename origin master
Renaming remote references: 100% (3/3), done.
PS D:\IGI\253502_KRASYOV_11> git remote -v
master https://github.com/B0YnextDoor/LABS-IGI (fetch)
master https://github.com/B0YnextDoor/LABS-IGI (push)
PS D:\IGI\253502_KRASYOV_11>

```

e) получите данные из удаленного репозитория:

Создадим файл в удалённом репозитории:

The screenshot shows the GitHub web interface. A user is navigating to the 'LABS-IGI' repository. In the code editor, a new file named 'newfile.txt' is being created in the 'main' branch. The file contains the single line: "This is the file for pulling to local repo". There are buttons for 'Edit', 'Preview', and 'Commit changes...'.

```

PS D:\IGI\253502_KRASYOV_11> git pull origin main
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 960 bytes | 480.00 KiB/s, done.
From https://github.com/B0YnextDoor/LABS-IGI
 * branch            main      -> FETCH_HEAD
 * [new branch]      main      -> origin/main
Updating c12830b..6559b86
Fast-forward
 newfile.txt | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 newfile.txt
PS D:\IGI\253502_KRASYOV_11>

```

f) просмотреть историю изменений:

```

PS D:\IGI\253502_KRASYOV_11> git log --branches --graph
* commit 6559b861f73fab2ddf28cd2cd7ef6d8755c6b41 (HEAD -> main, origin/main)
| Author: Paul <96624197-B0YnextDoor@users.noreply.github.com>
| Date:   Fri Feb 16 19:34:42 2024 +0300
|
|     Create newfile
|
* commit c12830b7af2cb69224880839a8e56b9492aa731a
| Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 19:29:02 2024 +0300
|
|     Changes for the remote repo
|
* commit eebb92f4d81195cb9523bb9e7bf39803dec4e325
| Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 19:15:55 2024 +0300
|
|     added file to change
|
* commit e2ac5d8571c030925ac9a9fd24af0d412a766a1c
| Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 19:11:57 2024 +0300
|
|     Revert "Test file added"
|
|     This reverts commit e4fb52ddaa8affb4b02f8772a06772244c095ea3.
|
* commit e4fb52ddaa8affb4b02f8772a06772244c095ea3
| Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 19:10:59 2024 +0300
|
|     Test file added
|
* commit 89f0f82ef1af5077d54827592076f2f6f06dafe9
| Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 18:41:41 2024 +0300
|
|     IGI & STRWEB contents added
|

```

```
Windows PowerShell * + - x
* commit dad39fe84045ac1936ub66f89a27f0f6c551b3 (STRWEB-BRANCH)
| Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 18:33:56 2024 +0300
| STRWEB-LR folder contents added
|
* commit 248eb5c937ac4f7df10d9be810a9b07b63 (IGI-BRANCH)
| Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 18:23:14 2024 +0300
| IGI-LR folder contents added
|
* commit d142b7c5144ad2a8dc7af328a672bc6742e14da6 (STRWEB-LR4-BRANCH)
|/ Author: Lovely Paul <ppetrov228@bk.ru>
// Date:   Fri Feb 16 18:12:37 2024 +0300
|
STRWEB-LR4 INIT
|
* commit 720eadcab4cdeb26f780b21476a29660b77f53f (STRWEB-LR3-BRANCH)
|/ Author: Lovely Paul <ppetrov228@bk.ru>
// Date:   Fri Feb 16 18:11:05 2024 +0300
|
STRWEB-LR3 INIT
|
* commit e586714387e3e5bc46e017452fe5c366b3978931 (STRWEB-LR2-BRANCH)
|/ Author: Lovely Paul <ppetrov228@bk.ru>
// Date:   Fri Feb 16 18:07:58 2024 +0300
|
STRWEB-LR2 INIT
|
* commit 80cb3d41b6c8c5999a385722d39345a9e293e859 (STRWEB-LR1-BRANCH)
|/ Author: Lovely Paul <ppetrov228@bk.ru>
// Date:   Fri Feb 16 18:06:10 2024 +0300
|
STRWEB-LR1 INIT
|
* commit c3f2908a8030934084a75050c4e2a6f69c5ff209
|/ Author: Lovely Paul <ppetrov228@bk.ru>
// Date:   Fri Feb 16 18:04:29 2024 +0300
|
STRWEB INIT
```

```
Windows PowerShell * + - x
* commit d5459d925b3e316d9dee91e8ddd1d6ab88249ce (IGI-LR5-BRANCH)
|/ Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 18:01:13 2024 +0300
|
IGI-LR5 INIT
|
* commit 196e9e73268915b045d1696ec4596dc83d3cc2 (IGI-LR4-BRANCH)
|/ Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 17:59:26 2024 +0300
|
IGI-LR4 INIT
|
* commit e1d29da873edcc50cd76fd461467146134909d2 (IGI-LR3-BRANCH)
|/ Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 15:16:30 2024 +0300
|
IGI-LR3 INIT
|
* commit 24445eb2e0d3237655fd9a42d75acdc98bdcd617 (IGI-LR2-BRANCH)
|/ Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 15:12:23 2024 +0300
|
IGI-LR2 INIT
|
* commit b6814d133972d2334d702740a039d793adda17d1 (IGI-LR1-BRANCH)
|/ Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 15:09:23 2024 +0300
|
IGI-LR1 INIT
|
* commit 24bcdf4801419006a019c8a4381003983313cd08
|/ Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 15:07:43 2024 +0300
|
IGI INIT
|
* commit 6522d7616feaf03eafabc9f1a8ddb2769a2fdc
| Author: Lovely Paul <ppetrov228@bk.ru>
| Date:   Fri Feb 16 15:05:40 2024 +0300
|
MAIN INIT
[END]
```