

Отчет по лабораторной работе 1 - Система контроля версий Git.

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Задание 1.

1.1. Подготовьте рабочее окружение в соответствии с типом вашей операционной системы

- Операционная система Linux Mint Cinnamon

1.2. Установите git

- Проверка, что git установлен

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU ~/Documents/253502_SHYSKOV
└─$ git --version
git version 2.34.1
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU ~/Documents/253502_SHYSKOV
└─$
```

1.3. Выполните базовую настройку

- Так как настраивал git я еще полгода назад, то вот как бы я его настраивал заново

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU ~
└─$ git config --global user.name "Shyskov"
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU ~
└─$ git config --global user.email "shyskov@inbox.ru"
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU ~
└─$
```

С помощью команды git config –list можно просмотреть всю конфигурацию текущем пользователе

```
user.email=shyskov@inbox.ru
user.name=Shyskov
init.defaultbranch=main
core.repositoryformatversion=0
core.filemode=true
core.bare=false
core.logallrefupdates=true
```

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

- Процесс создания папок и файлов

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~
$ cd Documents
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents
$ mkdir 253502_SHYSHKO_26
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents
$ cd 253502_SHYSHKO_26
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26
$ mkdir IGI STRWEB
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26
$ cd IGI
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI
$ mkdir LR1 LR2 LR3 LR4 LR5
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI
$ cd ..
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26
$ cd STRWEB
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/STRWEB
$ mkdir LR1 LR2 LR3 LR4
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/STRWEB
$ cd ..
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26
$ cd LR1
cd: no such file or directory: LR1
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26
$ cd IGI
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI
$ cd LR1
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1
$ mkdir bar
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1
$ mkdir foo
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1
$ cd bar
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar
$ mkdir 425 bin head
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar
$ ls
425 bin head
```

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar
$ rm head
rm: cannot remove 'head': Is a directory
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar
$ cd head
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/head
$ touch file.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/head
$ cd ..
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar
$ rm head
rm: cannot remove 'head': Is a directory
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar
$ rm -fir head
rm: descend into directory 'head'? ^Z
[1] + 8974 suspended rm -fir head
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar
$ rm -dir head
rm: descend into directory 'head'?
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar
$ ls
425 bin head
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar
$ rm -dir head
rm: descend into directory 'head'? y
rm: remove regular empty file 'head/file.txt'? y
rm: remove directory 'head'? y
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar
$ ls
425 bin
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar
$ cd bin
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/bin
$ mkdir 577 head
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/bin
$ cd bin
cd: no such file or directory: bin
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/bin
$ touch readme.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/bin
$ vim readme.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/bin
$ cd head
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/bin/head
$ mkdir 755
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/bin/head
```

```
7 directories, 1 file
└─shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1
  $ mkdir foo baz
mkdir: cannot create directory 'foo': File exists
└─shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1
  $ cd foo
  └─shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo
    $ mkdir 233 baz
    └─shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo/233
      $ ls
      233 baz
      └─shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo
        $ touch test.txt
        └─shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo
          $ ls
          233 baz test.txt
          └─shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo
            $ vim test.txt
            └─shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo
              $ cd baz
              └─shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo/baz
                $ mkdir 007 example
                └─shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo/baz
                  $ cd example
                  └─shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo/baz/example
                    $ mkdir 222
                    └─shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo/baz/example
```

- Вся начальная структура репозитория

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ tree
.
+- IGI
|   +- LR1
|   |   +- bar
|   |   |   +- 425
|   |   |   +- bin
|   |   |   |   +- 577
|   |   |   |   +- head
|   |   |   |   |   +- 755
|   |   |   |   +- readme.txt
|   |   +- baz
|   |   +- foo
|   |       +- 233
|   |       +- baz
|   |           +- 007
|   |               +- example
|   |                   +- 222
|   |                   +- test.txt
|   +- LR2
|   +- LR3
|   +- LR4
|   +- LR5
+- STRWEB
|   +- LR1
|   +- LR2
|   +- LR3
|   +- LR4
.
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
```

- #### - Инициализация локального репозитория

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~ /Documents/253502_SHYSHKO  
_26  
└─$ git init  
Initialized empty Git repository in /home/shyskov/Documents/253502_SHYSHKO_26/.git/  
it/  
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~ /Documents/253502_SHYSHKO  
_26 <main>
```

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)

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ git clone https://github.com/smartiqaorg/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 | 2.30 MiB/s, done.
Resolving deltas: 100% (6/6), done.
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ 
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ tree
.
+-- bar
|   +-- 425
|   +-- bin
|       +-- 577
|           +-- head
|               +-- 755
|                   +-- readme.txt
+-- foo
    +-- 233
    +-- baz
        +-- 007
            +-- example
                +-- 222
                    +-- test.txt
    +-- geometric_lib
        +-- circle.py
    +-- docs
        +-- README.md
    +-- square.py

14 directories, 5 files
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ 
```

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

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

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ 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)
```

```

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo <main>
$ git add test.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo <main>
$ cd ..
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ cd bar
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar <main>
$ cd bin
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/bin <main>
$ git add readme.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/bin <main>
$ cd ..
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar <main>
$ cd ..
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ git status
On branch main
No commits yet

Changes to be committed:
(use "git rm --cached <file>..." to unstage)
  new file:  bar/bin/readme.txt
  new file:  foo/test.txt

Untracked files:
(use "git add <file>..." to include in what will be committed)
  geometric_lib/
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>

```

b) Внесите изменения в файлы(изменял файлы и вносил новую информацию с помощью редактора Vim)

```

Changes to be committed:
(use "git rm --cached <file>..." to unstage)
  new file:  ./bar/bin/readme.txt
  new file:  test.txt

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:  ./bar/bin/readme.txt
  modified:  test.txt

Untracked files:
(use "git add <file>..." to include in what will be committed)
  ./geometric_lib/
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo <main>

```

c) Выполните коммиты к проиндексированным файлам

```

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo <main>
$ git commit -m "modify test.txt and readme.txt files"
[main (root-commit) 9bddad8] modify test.txt and readme.txt files
2 files changed, 3 insertions(+)
create mode 100644 IGI/LR1/bar/bin/readme.txt
create mode 100644 IGI/LR1/foo/test.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo <main>
$ 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:  ./bar/bin/readme.txt
  modified:  test.txt

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

no changes added to commit (use "git add" and/or "git commit -a")
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/foo <main>

```

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

- В папке bar/425 создадим файл socket.py, реализующего функционал работы сервера и клиента с помощью сокетов
- Создадим файл cicle.py в папке bin/577 для итерации элементов списка
- В папке LR1 создадим Readne.md файл с произвольным текстом. Создаем с помощью команды touch

```
import socket

# creating server socket
sock = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
sock.setsockopt(socket.SOL_SOCKET, socket.SO_REUSEADDR, 1)
sock.bind(('localhost', 5001))
sock.listen()

# create client socket and establish connection between them
# while it is True, they are connected
while True:
    print('Before .accept()')
    client, addr = sock.accept()
    print(f'Connection from {addr}')

    while True:
        print('Before .recv()')
        request = client.recv(4096)

        if not request:
            break
        else:
            response = 'Hello World!\n'.encode()
            client.send(response)
```

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ cd bar
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar <main>
$ cd 425
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/425 <main>
$ touch socket.py
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/425 <main>
$ vim socket.py
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/425 <main>
$ cd ..
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ cd ..
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ tree
.
+-- bar
    +-- 425
        +-- socket.py
    +-- bin
        +-- 577
            +-- head
                +-- 755
                    +-- readme.txt
    +-- foo
        +-- 233
        +-- baz
            +-- 007
                +-- example
                    +-- 222
                    +-- test.txt
        +-- geometric_lib
            +-- circle.py
        +-- docs
            +-- README.md
            +-- square.py
```

```
lst = list(range(1, 10))

for i in lst:
    print(i)
~
```

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
.
└── bar
    ├── 425
    │   └── socket.py
    └── bin
        ├── 577
        │   └── cicle.py
        └── head
            └── 755
                └── readme.txt
└── foo
    ├── 233
    └── baz
        ├── 007
        │   └── example
        │       └── 222
        └── test.txt
└── geometric_lib
    ├── circle.py
    └── docs
        └── README.md
└── square.py
```

```
.
└── IGI
    └── LR1
        .
        └── bar
            ├── 425
            │   └── socket.py
            └── bin
                ├── 577
                │   └── cicle.py
                └── head
                    └── 755
                        └── readme.txt
        └── foo
            ├── 233
            └── baz
                ├── 007
                │   └── example
                │       └── 222
                └── test.txt
        └── geometric_lib
            ├── circle.py
            └── docs
                └── README.md
            └── square.py
        └── Readme.md
    └── LR2
    └── LR3
    └── LR4
    └── LR5
└── STRWEB
    └── LR1
    └── LR2
    └── LR3
    └── LR4
```

```

25 directories, 8 files
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
└─ $ 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:   IGI/LR1/bar/bin/readme.txt
    modified:   IGI/LR1/foo/test.txt

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    IGI/LR1/Readme.md
    IGI/LR1/bar/425/
    IGI/LR1/bar/bin/577/
    IGI/LR1/geometric_lib/

no changes added to commit (use "git add" and/or "git commit -a")
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
└─ $ 

```

- Удалим файлы с расширением .py в папке geometric_lib(файлы circle.py, square.py) с помощью команды rm

```

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
└─ $ cd geometric_lib
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/geometric_lib <main>
└─ $ ls
circle.py  docs  square.py
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/geometric_lib <main>
└─ $ git rm circle.py
rm 'circle.py'
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/geometric_lib <main>
└─ $ ls
docs  square.py
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/geometric_lib <main>
└─ $ git rm square.py
rm 'square.py'

```

```

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI <main>
└─ $ tree
.
├── LR1
│   ├── bar
│   │   ├── 425
│   │   │   └── socket.py
│   │   └── bin
│   │       ├── 577
│   │       │   └── cicle.py
│   │       └── head
│   │           └── 755
│   │               └── readme.txt
│   └── foo
│       ├── 233
│       ├── baz
│       │   ├── 007
│       │   │   └── example
│       │   │       └── 222
│       │   └── test.txt
│       └── geometric_lib
│           ├── docs
│           │   └── README.md
│           └── Readme.md
└── LR2
└── LR3
└── LR4
└── LR5

19 directories, 6 files

```

e) переименуйте файлы

- В папке bar/bin переименуем файл readme.txt -> README.txt с помощью команды git mv <source_file> <destination_file>(файл проиндексирован)

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/bin <main>
$ git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    renamed:   readme.txt -> README.txt

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.txt
    modified:   ../../Too/test.txt

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ../../Readme.md
    ./425/
    577/
    ../../geometric_lib/

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1/bar/bin <main>
$
```

f) создайте для IGI и STRWEB, а также для каждой ЛР, вложенной в них, отдельные ветки, переместите папки и файлы на соответствующие ветки
!Все созданные ветки

```
IGI
IGI_LR1
IGI_LR2
IGI_LR3
IGI_LR4
IGI_LR5
STRWEB
STRWEB_LR1
STRWEB_LR2
STRWEB_LR3
* STRWEB_LR4
  main
```

```

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO
26 <main>
└$ git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    renamed:   IGI/LR1/bar/bin/readme.txt -> IGI/LR1/bar/bin/README.txt

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:  IGI/LR1/bar/bin/README.txt
    modified:  IGI/LR1/foo/test.txt

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    IGI/LR1/Readme.md
    IGI/LR1/bar/425/
    IGI/LR1/bar/bin/577/
    IGI/LR1/geometric_lib/

```

```

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO
26 <main>
└$ [REDACTED]

```

- Проиндексируем измененные и добавленные файлы(без submodule) и сделаем коммит. Также добавим файлы для STRWEB директории

```

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO
26 <main>
└$ git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:  IGI/LR1/Readme.md
    new file:  IGI/LR1/bar/425/socket.py
    new file:  IGI/LR1/bar/bin/577/cicle.py
    new file:  IGI/LR1/bar/bin/README.txt
    deleted:   IGI/LR1/bar/bin/readme.txt
    modified:  IGI/LR1/foo/test.txt
    new file:  IGI/LR1/geometric_lib

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)
  (commit or discard the untracked or modified content in submodules)
    modified:  IGI/LR1/geometric_lib (modified content)

```

```

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO
26/STRWEB/LR4 <main>
└$ git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:  ./LR1/test.txt
    new file:  ./LR2/test.txt
    new file:  ./LR3/test.txt
    new file:  test.txt

Untracked files:

```

```

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO
26 <main>
└$ git commit -m "rename readme.txt file and modify test.txt file"

[main 8a6f445] rename readme.txt file and modify test.txt file
7 files changed, 33 insertions(+), 3 deletions(-)
create mode 100644 IGI/LR1/Readme.md
create mode 100644 IGI/LR1/bar/425/socket.py
create mode 100644 IGI/LR1/bar/bin/577/cicle.py
create mode 100644 IGI/LR1/bar/bin/README.txt
delete mode 100644 IGI/LR1/bar/bin/readme.txt
create mode 160000 IGI/LR1/geometric lib

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO
26 <main>
└$ git commit -m "delete geometric_lib submodule"

[main b37dd1e] delete geometric_lib submodule
1 file changed, 1 deletion(-)
delete mode 160000 IGI/LR1/geometric lib

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO
26/STRWEB/LR4 <main>
└$ git commit -m "add test.txt files in STRWEB"
[main 51f5b65] add test.txt files in STRWEB
4 files changed, 0 insertions(+), 0 deletions(-)
create mode 100644 STRWEB/LR1/test.txt
create mode 100644 STRWEB/LR2/test.txt
create mode 100644 STRWEB/LR3/test.txt
create mode 100644 STRWEB/LR4/test.txt

```

- Для ветки IGI

```

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO
26/IGI <IGI>
└$ git status
On branch IGI
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    renamed:  ./STRWEB/LR1/test.txt -> IGI.txt
    new file:  LR1/geometric_lib
    deleted:  ./STRWEB/LR2/test.txt
    deleted:  ./STRWEB/LR3/test.txt
    deleted:  ./STRWEB/LR4/test.txt

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)
  (commit or discard the untracked or modified content in submodules)
    modified:   LR1/geometric_lib (modified content)

```

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <IGI>
$ git commit -m "delete STRWEB and add IGI.txt file"
[IGI 71d3f7d] delete STRWEB and add IGI.txt file
5 files changed, 1 insertion(+)
rename STRWEB/LR1/test.txt => IGI/IGI.txt (100%)
create mode 160000 IGI/LR1/geometric_lib
delete mode 100644 STRWEB/LR2/test.txt
delete mode 100644 STRWEB/LR3/test.txt
delete mode 100644 STRWEB/LR4/test.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <IGI>
$ tree
.
└── IGI
    ├── IGI.txt
    └── LR1
        ├── bar
        │   ├── 425
        │   │   └── socket.py
        │   ├── 577
        │   │   └── cicle.py
        │   └── head
        │       └── 755
        │           └── README.txt
        ├── foo
        │   ├── 233
        │   ├── baz
        │   │   ├── 007
        │   │   │   └── example
        │   │   │       └── 222
        │   │   └── test.txt
        │   └── geometric_lib
        │       └── docs
        │           └── README.md
        └── Readme.md

        ├── LR2
        ├── LR3
        ├── LR4
        └── LR5
```

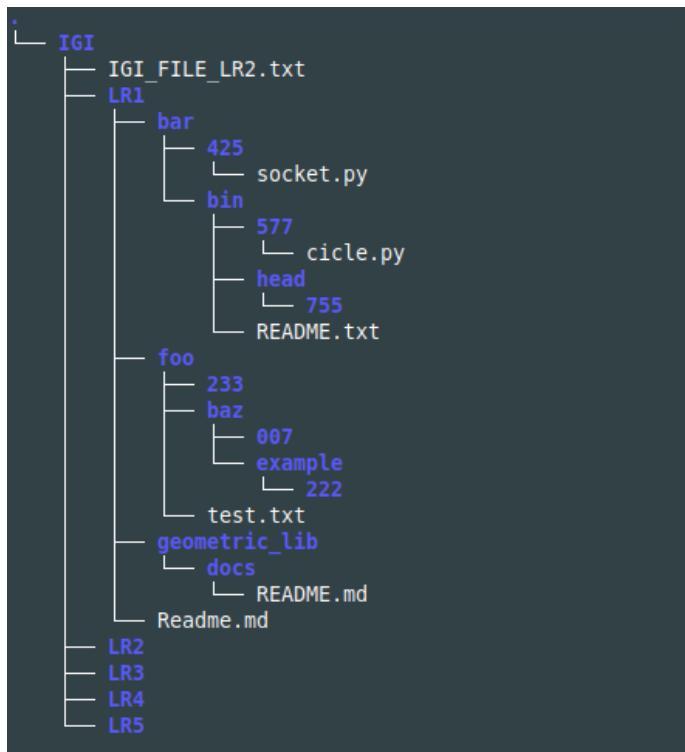
- Для IGI_LR1 удаляем директорию STRWEB и добавляем отдельный файл в IGI. Сделаем так и для остальных LR

IGI_LR1

```

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~Documents/253502_SHYSHKO_26 <main>
$ git checkout -b IGI_LR1
Switched to a new branch 'IGI_LR1'
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~Documents/253502_SHYSHKO_26 <IGI_LR1>
$ git rm -rf STRWEB
rm 'STRWEB/LR1/test.txt'
rm 'STRWEB/LR2/test.txt'
rm 'STRWEB/LR3/test.txt'
rm 'STRWEB/LR4/test.txt'
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~Documents/253502_SHYSHKO_26 <IGI_LR1>
$ cd IGI
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~Documents/253502_SHYSHKO_26/IGI <IGI_LR1>
$ touch IGI_FILE_LR2.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~Documents/253502_SHYSHKO_26/IGI <IGI_LR1>
$ git add IGI_FILE_LR2.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~Documents/253502_SHYSHKO_26/IGI <IGI_LR1>
$ git commit -m "delete STRWEB and add file"
[IGI_LR1 965634a] delete STRWEB and add file
5 files changed, 1 insertion(+)
rename STRWEB/LR1/test.txt => IGI/IGI_FILE_LR2.txt (100%)
create mode 160000 IGI/LR1/geometric_lib
delete mode 100644 STRWEB/LR2/test.txt
delete mode 100644 STRWEB/LR3/test.txt
delete mode 100644 STRWEB/LR4/test.txt

```



IGI_LR2

```
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    renamed:  ./STRWEB/LR1/test.txt -> laboratory3.txt
    renamed:  ./STRWEB/LR2/test.txt -> linux.c
    renamed:  ./STRWEB/LR3/test.txt -> some_file.py
    deleted:  ./STRWEB/LR4/test.txt

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

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI <IGI_LR2>
$ git commit -m "Initial commit IGI_LR2"
[IGI_LR2 dcca516] Initial commit IGI_LR2
4 files changed, 0 insertions(+), 0 deletions(-)
rename STRWEB/LR1/test.txt => IGI/laboratory3.txt (100%)
rename STRWEB/LR2/test.txt => IGI/linux.c (100%)
rename STRWEB/LR3/test.txt => IGI/some_file.py (100%)
delete mode 100644 STRWEB/LR4/test.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI <IGI_LR2>
$ cd ..
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <IGI_LR2>
$ tree
.
└── IGI
    ├── laboratory3.txt
    ├── linux.c
    └── LR1
        ├── bar
        │   ├── 425
        │   └── bin
        │       ├── 577
        │       │   └── cicle.py
        │       ├── head
        │       └── 755
        │           └── README.txt
        ├── foo
        │   ├── 233
        │   ├── baz
        │   │   ├── 007
        │   │   │   └── example
        │   │   │       └── 222
        │   │   └── test.txt
        │   └── geometric_lib
        │       └── docs
        │           └── README.md
        └── Readme.md
└── LR2
└── LR3
└── LR4
└── LR5
└── some_file.py
```

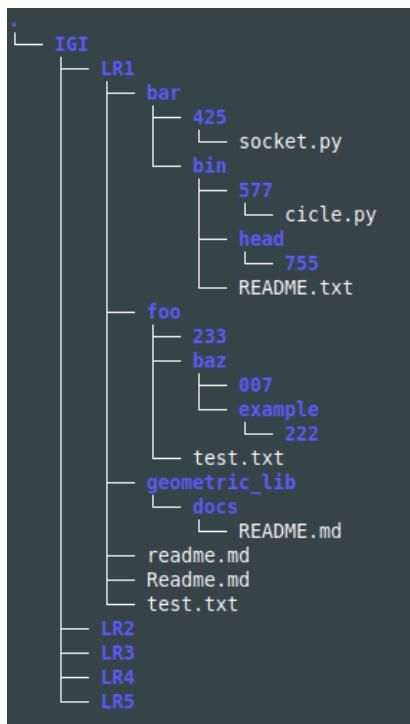
IGI_LR3

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <IGI_LR3>
$ git rm -rf STRWEB
rm 'STRWEB/LR1/test.txt'
rm 'STRWEB/LR2/test.txt'
rm 'STRWEB/LR3/test.txt'
rm 'STRWEB/LR4/test.txt'
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <IGI_LR3>
$ touch readme.md test.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <IGI_LR3>
$ git add readme.md test.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <IGI_LR3>
$ git commit -m "Initial commit IGI_LR3"
[IGI_LR3 ea0814c] Initial commit IGI_LR3
 4 files changed, 0 insertions(+), 0 deletions(-)
 delete mode 100644 STRWEB/LR3/test.txt
 delete mode 100644 STRWEB/LR4/test.txt
 rename STRWEB/LR1/test.txt => readme.md (100%)
 rename STRWEB/LR2/test.txt => test.txt (100%)
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <IGI_LR3>
$ git status
On branch IGI_LR3
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    IGI/LR1/geometric_lib/
nothing added to commit but untracked files present (use "git add" to track)
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <IGI_LR3>
$ tree
.
├── IGI
│   ├── LR1
│   │   ├── bar
│   │   │   ├── 425
│   │   │   │   └── socket.py
│   │   │   ├── bin
│   │   │   │   ├── 577
│   │   │   │   │   └── cicle.py
│   │   │   │   ├── head
│   │   │   │   │   └── 755
│   │   │   │   └── README.txt
│   │   ├── foo
│   │   │   ├── 233
│   │   │   │   ├── baz
│   │   │   │   │   ├── 007
│   │   │   │   │   │   └── example
│   │   │   │   │   └── 222
│   │   │   │   └── test.txt
│   │   │   └── geometric_lib
│   │   │       └── docs
│   │   │           └── README.md
│   │   └── Readme.md
│   ├── LR2
│   ├── LR3
│   ├── LR4
│   └── LR5
└── readme.md
    └── test.txt
```

IGI_LR4

```
[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]Documents/253502_SHYSHKO_26 <main>
$ git checkout -b IGI_LR4
Switched to a new branch 'IGI_LR4'
[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]Documents/253502_SHYSHKO_26 <IGI_LR4>
$ git rm -rf STRWEB
rm 'STRWEB/LR1/test.txt'
rm 'STRWEB/LR2/test.txt'
rm 'STRWEB/LR3/test.txt'
rm 'STRWEB/LR4/test.txt'
[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]Documents/253502_SHYSHKO_26 <IGI_LR4>
$ cd IGI
[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]Documents/253502_SHYSHKO_26/IGI <IGI_LR4>
$ cd LR1
[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]Documents/253502_SHYSHKO_26/IGI/LR1 <IGI_LR4>
$ touch readme.md test.txt
[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]Documents/253502_SHYSHKO_26/IGI/LR1 <IGI_LR4>
$ git add readme.md test.txt
[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]Documents/253502_SHYSHKO_26/IGI/LR1 <IGI_LR4>
$ git status
On branch IGI_LR4
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    renamed:  ../../STRWEB/LR1/test.txt -> readme.md
    renamed:  ../../STRWEB/LR2/test.txt -> test.txt
    deleted:  ../../STRWEB/LR3/test.txt
    deleted:  ../../STRWEB/LR4/test.txt

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    geometric_lib/
[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]Documents/253502_SHYSHKO_26/IGI/LR1 <IGI_LR4>
$ git commit -m "Initial commit IGI_LR4"
[IGI_LR4 9c93855] Initial commit IGI_LR4
4 files changed, 0 insertions(+), 0 deletions(-)
rename STRWEB/LR1/test.txt => IGI/LR1/readme.md (100%)
rename {STRWEB/LR2 => IGI/LR1}/test.txt (100%)
delete mode 100644 STRWEB/LR3/test.txt
delete mode 100644 STRWEB/LR4/test.txt
```

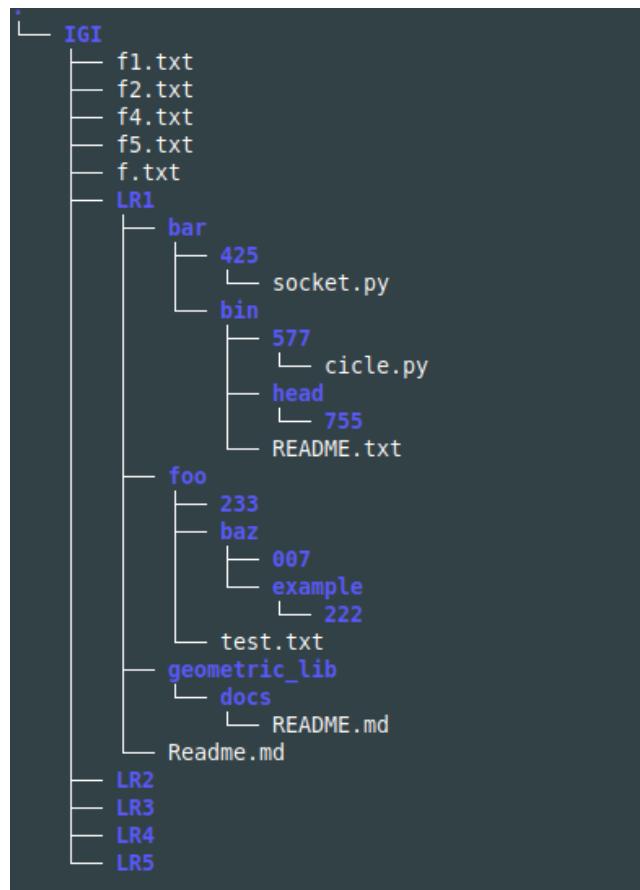


IGI_LR5

```
→ git status
On branch IGI_LR5
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    renamed:  ./STRWEB/LR1/test.txt -> f.txt
    renamed:  ./STRWEB/LR2/test.txt -> f1.txt
    renamed:  ./STRWEB/LR3/test.txt -> f2.txt
    renamed:  ./STRWEB/LR4/test.txt -> f4.txt
    new file: f5.txt

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

[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI <IGI_LR5●>
$ git commit -m "Initial commit IGI_LR5"
[IGI_LR5 38e6ce9] Initial commit IGI_LR5
5 files changed, 0 insertions(+), 0 deletions(-)
rename STRWEB/LR1/test.txt => IGI/f.txt (100%)
rename STRWEB/LR2/test.txt => IGI/f1.txt (100%)
rename STRWEB/LR3/test.txt => IGI/f2.txt (100%)
rename STRWEB/LR4/test.txt => IGI/f4.txt (100%)
create mode 100644 IGI/f5.txt
```



- В ветках STRWEB и ее LR, просто удаляем папки не по названию LR

STRWEB

```
On branch STRWEB
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:  docker-compose.yml

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

[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~] $ git commit -m "Initial commit STRWEB"
[STRWEB a30cab8] Initial commit STRWEB
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 docker-compose.yml
[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~] $ tree
.
├── docker-compose.yml
└── IGI
    ├── LR1
    │   ├── bar
    │   │   ├── 425
    │   │   └── socket.py
    │   ├── bin
    │   │   ├── 577
    │   │   └── cicle.py
    │   ├── head
    │   │   └── 755
    │   └── README.txt
    ├── foo
    │   ├── 233
    │   ├── baz
    │   │   ├── 007
    │   │   └── example
    │   ├── test.txt
    │   └── geometric_lib
    │       └── docs
    │           └── README.md
    └── Readme.md
    └── LR2
    └── LR3
    └── LR4
    └── LR5
└── STRWEB
    ├── LR1
    │   └── test.txt
    ├── LR2
    │   └── test.txt
    ├── LR3
    │   └── test.txt
    └── LR4
        └── test.txt
```

STRWEB_LR1

```

(use "git restore --staged <file>..." to unstage)
  deleted:  LR2/test.txt
  deleted:  LR3/test.txt
  deleted:  LR4/test.txt

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

```

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/STRWEB <STRWEB_LR1●>
$ git commit -m "Initial commit STRWEB LR1"
[STRWEB_LR1 41ae523] Initial commit STRWEB LR1
  3 files changed, 0 insertions(+), 0 deletions(-)
  delete mode 100644 STRWEB/LR2/test.txt
  delete mode 100644 STRWEB/LR3/test.txt
  delete mode 100644 STRWEB/LR4/test.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/STRWEB <STRWEB_LR1●>
$ tree
.
└── LR1
    └── test.txt

1 directory, 1 file
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/STRWEB <STRWEB_LR1●>
$ cd ..
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <STRWEB_LR1●>
$ tree
.
├── IGI
│   ├── LR1
│   │   ├── bar
│   │   │   ├── 425
│   │   │   └── socket.py
│   │   ├── bin
│   │   │   ├── 577
│   │   │   └── cicle.py
│   │   └── head
│   │       ├── 755
│   │       └── README.txt
│   ├── foo
│   │   ├── 233
│   │   ├── baz
│   │   │   ├── 007
│   │   │   └── example
│   │   ├── test.txt
│   │   └── geometric.lib
│   │       ├── docs
│   │       └── README.md
│   └── Readme.md
└── LR2
└── LR3
└── LR4
└── LR5
└── STRWEB
    └── LR1
        └── test.txt

```

STRWEB_LR2

```
(use "git restore --staged <file>..." to unstage)
 deleted:  LR1/test.txt
 deleted:  LR3/test.txt
 deleted:  LR4/test.txt

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

[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26/STRWEB >STRWEB_LR2•
$ git commit -m "Initial commit STRWEB_LR2"
[STRWEB_LR2 c12a8a2] Initial commit STRWEB_LR2
3 files changed, 0 insertions(+), 0 deletions(-)
delete mode 100644 STRWEB/LR1/test.txt
delete mode 100644 STRWEB/LR3/test.txt
delete mode 100644 STRWEB/LR4/test.txt
[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26/STRWEB >STRWEB_LR2•
$ tree
.
└── LR2
    └── test.txt

1 directory, 1 file
[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26/STRWEB >STRWEB_LR2•
$ cd ..
[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26 <STRWEB_LR2•
$ tree
.
├── IGI
│   ├── LR1
│   │   ├── bar
│   │   │   ├── 425
│   │   │   │   └── socket.py
│   │   │   ├── bin
│   │   │   │   ├── 577
│   │   │   │   │   └── cicle.py
│   │   │   │   ├── head
│   │   │   │   └── 755
│   │   │   └── README.txt
│   │   ├── foo
│   │   │   ├── 233
│   │   │   ├── baz
│   │   │   │   ├── 007
│   │   │   │   │   └── example
│   │   │   │   └── 222
│   │   │   ├── test.txt
│   │   │   └── geometric_lib
│   │   │       └── docs
│   │   │           └── README.md
│   │   └── Readme.md
│   ├── LR2
│   ├── LR3
│   ├── LR4
│   └── LR5
└── STRWEB
    └── LR2
        └── test.txt
```

STRWEB_LR3

```

(use "git restore --staged <file>..." to unstage)
  deleted:  LR1/test.txt
  deleted:  LR2/test.txt
  deleted:  LR4/test.txt

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

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/STRWEB <STRWEB_LR3>
$ git commit -m "Initial commit STRWEB_LR3"
[STRWEB_LR3 4504a2d] Initial commit STRWEB_LR3
3 files changed, 0 insertions(+), 0 deletions(-)
delete mode 100644 STRWEB/LR1/test.txt
delete mode 100644 STRWEB/LR2/test.txt
delete mode 100644 STRWEB/LR4/test.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/STRWEB <STRWEB_LR3>
$ cd ..
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <STRWEB_LR3>
$ tree
.
+-- IGI
    +-- LR1
        +-- bar
            +-- 425
                +-- socket.py
            +-- 577
                +-- cicle.py
                +-- head
                    +-- 755
                +-- README.txt
            +-- foo
                +-- 233
                    +-- baz
                        +-- 007
                            +-- example
                                +-- 222
                            +-- test.txt
                +-- geometric_lib
                    +-- docs
                        +-- README.md
                +-- Readme.md
            +-- LR2
            +-- LR3
            +-- LR4
            +-- LR5
        +-- STRWEB
            +-- LR3
                +-- test.txt

```

STRWEB_LR4

```

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/STRWEB <STRWEB_LR4>
$ git commit -m "Initial commit STRWEB_LR4"
[STRWEB_LR4 4a4e8ac] Initial commit STRWEB_LR4
3 files changed, 0 insertions(+), 0 deletions(-)
delete mode 100644 STRWEB/LR1/test.txt
delete mode 100644 STRWEB/LR2/test.txt
delete mode 100644 STRWEB/LR3/test.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/STRWEB <STRWEB_LR4>
$ cd ..
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <STRWEB_LR4>
$ tree
.
+-- IGI
    +-- LR1
        +-- bar
            +-- 425
                +-- socket.py
            +-- 577
                +-- cicle.py
                +-- head
                    +-- 755
                +-- README.txt
            +-- foo
                +-- 233
                    +-- baz
                        +-- 007
                            +-- example
                                +-- 222
                            +-- test.txt
                +-- geometric_lib
                    +-- docs
                        +-- README.md
                +-- Readme.md
            +-- LR2
            +-- LR3
            +-- LR4
            +-- LR5
        +-- STRWEB
            +-- LR4
                +-- test.txt

```

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)

!Всю историю будем выводить из всех веток

- Выведим историю всех коммитов

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git log --all --graph --decorate
[9] + 27859 suspended git log --all --graph --decorate
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
```

```
* 4a4e8ac (STRWEB_LR4) Initial commit STRWEB_LR4
| * 4504a2d (STRWEB_LR3) Initial commit STRWEB_LR3
|/
| * c12a8a2 (STRWEB_LR2) Initial commit STRWEB_LR2
|/
| * 41ae523 (STRWEB_LR1) Initial commit STRWEB_LR1
|/
| * a30cab8 (STRWEB) Initial commit STRWEB
|/
| * 38e6ce9 (IGI_LR5) Initial commit IGI_LR5
|/
| * 9c93855 (IGI_LR4) Initial commit IGI_LR4
|/
| * ea0814c (IGI_LR3) Initial commit IGI_LR3
|/
| * dcda516 (IGI_LR2) Initial commit IGI_LR2
|/
| * 965634a (IGI_LR1) delete STRWEB and add file
|/
| * 71d3f7d (IGI) delete STRWEB and add IGI.txt file
|/
* 51f5b65 (HEAD -> main) add test.txt files in STRWEB
* b37ddle delete geometric_lib submodule
* 8a6f445 rename readme.txt file and modify test.txt file
* 9bddad8 modify test.txt and readme.txt files
```

- Выведим последние 4 коммита(флаг -(n))

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git log --all --graph --decorate -4
```



```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git log -5
```

```
* commit 4a4e8ac085a5d77ef01d69b5b1c803447e8f3ba1 (STRWEB_LR4)
| Author: Shyskov <shyskov@inbox.ru>
| Date:   Fri Feb 16 20:39:07 2024 +0300
|
|     Initial commit STRWEB_LR4
|
* commit 4504a2d2dd35b25df5d296a97e100edf0295c77c (STRWEB_LR3)
| Author: Shyskov <shyskov@inbox.ru>
| Date:   Fri Feb 16 20:37:43 2024 +0300
|
|     Initial commit STRWEB_LR3
|
* commit c12a8a2e8e9501683a60f863e923c6e5cf60f93a (STRWEB_LR2)
| Author: Shyskov <shyskov@inbox.ru>
| Date:   Fri Feb 16 20:36:08 2024 +0300
|
|     Initial commit STRWEB_LR2
|
* commit 41ae5230383423a644df4fd5f777f97e9c07ef7f (STRWEB_LR1)
| Author: Shyskov <shyskov@inbox.ru>
| Date:   Fri Feb 16 20:32:07 2024 +0300
|
|     Initial commit STRWEB_LR1
```

- Выведим до указанной даты

```
commit 51f5b6589fb641cf5fe2bda057bb1e8b93b33045 (HEAD -> main)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 19:49:45 2024 +0300

    add test.txt files in STRWEB

commit b37dd1e6abd95d1ec9ce81913eb3247402fdbb19
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 19:42:00 2024 +0300

    delete geometric_lib submodule

commit 8a6f44594d5a7d84502709f0258fd0f03ca92669
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 19:36:39 2024 +0300

    rename readme.txt file and modify test.txt file

commit 9bddad892643f7c5fdadcal1a5e4dbc4413381e3e
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 14:40:19 2024 +0300

    modify test.txt and readme.txt files
```

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU ~ /Documents/253502_SHYSHKO_26 <main●>
$ git log --branches --until="Fri Feb 16 20:07:27 2024 +0300"
```

- Выведим после указанной даты

```
[21] 132150 [Suspended] git log --branches --since="Fri Feb 16 20:07:27 2024 +0300"
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU ~ /Documents/253502_SHYSHKO_26 <main●>
$ git log --branches --since="Fri Feb 16 20:07:27 2024 +0300"
```

```
commit 4a4e8ac085a5d77ef01d69b5b1c803447e8f3ba1 (STRWEB_LR4)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 20:39:07 2024 +0300

    Initial commit STRWEB_LR4

commit 4504a2d2dd35b25df5d296a97e100edf0295c77c (STRWEB_LR3)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 20:37:43 2024 +0300

    Initial commit STRWEB_LR3

commit c12a8a2e8e9501683a60f863e923c6e5cf60f93a (STRWEB_LR2)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 20:36:08 2024 +0300

    Initial commit STRWEB_LR2

commit 41ae5230383423a644df4fd5f777f97e9c07ef7f (STRWEB_LR1)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 20:32:07 2024 +0300

    Initial commit STRWEB_LR1

commit a30cab8afada7e992b7e4f96844f5be407615c98 (STRWEB)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 20:27:50 2024 +0300

    Initial commit STRWEB

commit 38e6ce953c908da9bf8c200018f80f868dab78f7 (IGI_LR5)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 20:24:53 2024 +0300

    Initial commit IGI_LR5

commit 9c9385520f5a7b46c8f7404fbbe3003db4fc867b (IGI_LR4)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 20:20:20 2024 +0300

    Initial commit IGI_LR4

commit ea0814c3bf27893718d506e35074ffdee378d2a4 (IGI_LR3)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 20:16:53 2024 +0300

    Initial commit IGI_LR3

commit dcda5166771f9bfd2a43c57385398213f002015c (IGI_LR2)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 20:13:00 2024 +0300

    Initial commit IGI_LR2

commit 965634ab84ee66c4c095cec35923a1e657e28b98 (IGI_LR1)
Author: Shyskov <shyskov@inbox.ru>
```

- Выведим в определенный промежуток, комбинируя `-since`/`-until`

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git log --branches --since="Fri Feb 16 14:40:19 2024 +0300" --until="Fri Feb 16 20:20:20 2024 +03000"

commit 9c9385520f5a7b46c8f7404fbe3003db4fc867b (IGI_LR4)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 20:20:20 2024 +0300

    Initial commit IGI_LR4

commit ea0814c3bf27893718d506e35074ffdee378d2a4 (IGI_LR3)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 20:16:53 2024 +0300

    Initial commit IGI_LR3

commit dcda5166771f9bfd2a43c57385398213f002015c (IGI_LR2)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 20:13:00 2024 +0300

    Initial commit IGI_LR2

commit 965634ab84ee66c4c095cec35923a1e657e28b98 (IGI_LR1)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 20:07:27 2024 +0300

    delete STRWEB and add file

commit 71d3f7d625e2411d89a28cf9ea518fdd61f8f415 (IGI)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 19:54:11 2024 +0300

    delete STRWEB and add IGI.txt file

commit 51f5b6589fb641cf5fe2bda057bb1e8b93b33045 (HEAD -> main)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 19:49:45 2024 +0300

    add test.txt files in STRWEB

commit b37dd1e6abd95d1ec9ce81913eb3247402fdbb19
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 19:42:00 2024 +0300

    delete geometric_lib submodule

commit 8a6f44594d5a7d84562709f0258fd0fe3ca92669
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 19:36:39 2024 +0300

    rename readme.txt file and modify test.txt file

commit 9bddad892643f7c5fadac1a5e4dbc4413381e3e
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 14:40:19 2024 +0300

    modify test.txt and readme.txt files
```

- Выведим после указанной даты через `-after`

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git log --branches --after="Fri Feb 16 14:40:19 2024 +0300" --oneline

4a4e8ac (STRWEB_LR4) Initial commit STRWEB_LR4
4504a2d (STRWEB_LR3) Initial commit STRWEB_LR3
c12a8a2 (STRWEB_LR2) Initial commit STRWEB_LR2
41ae523 (STRWEB_LR1) Initial commit STRWEB_LR1
a30cab8 (STRWEB) Initial commit STRWEB
38e6ce9 (IGI_LR5) Initial commit IGI_LR5
9c93855 (IGI_LR4) Initial commit IGI_LR4
ea0814c (IGI_LR3) Initial commit IGI_LR3
dcda516 (IGI_LR2) Initial commit IGI_LR2
965634a (IGI_LR1) delete STRWEB and add file
71d3f7d (IGI) delete STRWEB and add IGI.txt file
51f5b65 (HEAD -> main) add test.txt files in STRWEB
b37dd1e delete geometric_lib submodule
8a6f445 rename readme.txt file and modify test.txt file
9bddad8 modify test.txt and readme.txt files
```

- Выведим до указанной даты через –before

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git log --branches --before="Fri Feb 16 14:40:19 2024 +0300" --oneline
```

```
9bddad8 modify test.txt and readme.txt files
```

- Вывод коммитов определенного автора

```
* 4a4e8ac (STRWEB_LR4) Initial commit STRWEB_LR4
* 4504a2d (STRWEB_LR3) Initial commit STRWEB_LR3
/
* c12a8a2 (STRWEB_LR2) Initial commit STRWEB_LR2
/
* 41ae523 (STRWEB_LR1) Initial commit STRWEB_LR1
/
* a30cab8 (STRWEB) Initial commit STRWEB
/
* 38e6ce9 (IGI_LR5) Initial commit IGI_LR5
/
* 9c93855 (IGI_LR4) Initial commit IGI_LR4
/
* ea0814c (IGI_LR3) Initial commit IGI_LR3
/
* dcda516 (IGI_LR2) Initial commit IGI_LR2
/
* 965634a (IGI_LR1) delete STRWEB and add file
/
* 71d3f7d (IGI) delete STRWEB and add IGI.txt file
/
* 51f5b65 (HEAD -> main) add test.txt files in STRWEB
* b37dd1e delete geometric_lib submodule
* 8a6f445 rename readme.txt file and modify test.txt file
* 9bddad8 modify test.txt and readme.txt files
```

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git log --branches --author="Shyskov" --oneline --graph
```

- grep

```
* 4a4e8ac (STRWEB_LR4) Initial commit STRWEB_LR4
* 4504a2d (STRWEB_LR3) Initial commit STRWEB_LR3
* c12a8a2 (STRWEB_LR2) Initial commit STRWEB_LR2
* 41ae523 (STRWEB_LR1) Initial commit STRWEB_LR1
* a30cab8 (STRWEB) Initial commit STRWEB
* 38e6ce9 (IGI_LR5) Initial commit IGI_LR5
* 9c93855 (IGI_LR4) Initial commit IGI_LR4
* ea0814c (IGI_LR3) Initial commit IGI_LR3
* dcda516 (IGI_LR2) Initial commit IGI_LR2
```

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git log --branches --grep="Init" --oneline --graph
```

- committer

```
* 4a4e8ac (STRWEB_LR4) Initial commit STRWEB_LR4
| * 4504a2d (STRWEB_LR3) Initial commit STRWEB_LR3
|/
| * c12a8a2 (STRWEB_LR2) Initial commit STRWEB_LR2
|/
| * 41ae523 (STRWEB_LR1) Initial commit STRWEB_LR1
|/
| * a30cab8 (STRWEB) Initial commit STRWEB
|/
| * 38e6ce9 (IGI_LR5) Initial commit IGI_LR5
|/
| * 9c93855 (IGI_LR4) Initial commit IGI_LR4
|/
| * ea0814c (IGI_LR3) Initial commit IGI_LR3
|/
| * dcda516 (IGI_LR2) Initial commit IGI_LR2
|/
| * 965634a (IGI_LR1) delete STRWEB and add file
|/
| * 71d3f7d (IGI) delete STRWEB and add IGI.txt file
|/
* 51f5b65 (HEAD -> main) add test.txt files in STRWEB
* b37dd1e delete geometric_lib submodule
* 8a6f445 rename readme.txt file and modify test.txt file
* 9bddad8 modify test.txt and readme.txt files
```

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git log --branches --committer="Shyskov" --oneline --graph
```

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

- git log -p

```
commit 9bddad892643f7c5fdadca1a5e4dbc4413381e3e
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 14:40:19 2024 +0300

    modify test.txt and readme.txt files

diff --git a/IGI/LR1/bar/bin/readme.txt b/IGI/LR1/bar/bin/readme.txt
new file mode 100644
index 000000..8e5513f
--- /dev/null
+++ b/IGI/LR1/bar/bin/readme.txt
@@ -0,0 +1,2 @@
+444
+
diff --git a/IGI/LR1/foo/test.txt b/IGI/LR1/foo/test.txt
new file mode 100644
index 000000..8b8e485
--- /dev/null
+++ b/IGI/LR1/foo/test.txt
@@ -0,0 +1 @@
+707
```

- git log -stat

```
commit 8a6f44594d5a7d84502709f0258fd0f03ca92669
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 19:36:39 2024 +0300

    rename readme.txt file and modify test.txt file

IGI/LR1/Readme.md      |  1 +
IGI/LR1/bar/425/socket.py | 24 ++++++=====
IGI/LR1/bar/bin/577/cicle.py |  4 ++++
IGI/LR1/bar/bin/README.txt |  2 ++
IGI/LR1/bar/bin/readme.txt |  2 --
IGI/LR1/foo/test.txt     |  2 ++
IGI/LR1/geometric_lib   |  1 +
7 files changed, 33 insertions(+), 3 deletions(-)
```

- git log --shortstat

```
commit 51f5b6589fb641cf5fe2bda057bb1e8b93b33045 (HEAD -> main)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 19:49:45 2024 +0300

    add test.txt files in STRWEB

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

- git log --name-only

```
commit 51f5b6589fb641cf5fe2bda057bb1e8b93b33045 (HEAD -> main)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 19:49:45 2024 +0300

    add test.txt files in STRWEB

STRWEB/LR1/test.txt
STRWEB/LR2/test.txt
STRWEB/LR3/test.txt
STRWEB/LR4/test.txt

commit b37dd1e6abd95d1ec9ce81913eb3247402fdbb19
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 19:42:00 2024 +0300

    delete geometric_lib submodule

IGI/LR1/geometric_lib
```

- git log --name-status

```
commit 51f5b6589fb641cf5fe2bda057bb1e8b93b33045 (HEAD -> main)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 19:49:45 2024 +0300

    add test.txt files in STRWEB

A      STRWEB/LR1/test.txt
A      STRWEB/LR2/test.txt
A      STRWEB/LR3/test.txt
A      STRWEB/LR4/test.txt

commit b37dd1e6abd95d1ec9ce81913eb3247402fdbb19
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 19:42:00 2024 +0300

    delete geometric_lib submodule

D      IGI/LR1/geometric_lib
```

- git log --relative-date

```
commit 51f5b6589fb641cf5fe2bda057bb1e8b93b33045 (HEAD -> main)
Author: Shyskov <shyskov@inbox.ru>
Date:   2 hours ago

    add test.txt files in STRWEB
```

- git log --pretty

```
commit 51f5b6589fb641cf5fe2bda057bb1e8b93b33045 (HEAD -> main)
Author: Shyskov <shyskov@inbox.ru>
Date:   Fri Feb 16 19:49:45 2024 +0300

    add test.txt files in STRWEB
```

- git log --graph

```
* commit 51f5b6589fb641cf5fe2bda057bb1e8b93b33045 (HEAD -> main)
| Author: Shyskov <shyskov@inbox.ru>
| Date:   Fri Feb 16 19:49:45 2024 +0300
|
|     add test.txt files in STRWEB
|
```

i) найдите разницу в изменениях для каждого коммита

```
[44] + 38683 suspended git log --patch --oneline --graph
└─shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main•>
$ git log --patch --oneline --graph
```

```
* 51f5b65 (HEAD -> main) add test.txt files in STRWEB
| diff --git a/STRWEB/LR1/test.txt b/STRWEB/LR1/test.txt
| new file mode 100644
| index 0000000..e69de29
| diff --git a/STRWEB/LR2/test.txt b/STRWEB/LR2/test.txt
| new file mode 100644
| index 0000000..e69de29
| diff --git a/STRWEB/LR3/test.txt b/STRWEB/LR3/test.txt
| new file mode 100644
| index 0000000..e69de29
| diff --git a/STRWEB/LR4/test.txt b/STRWEB/LR4/test.txt
| new file mode 100644
| index 0000000..e69de29
* b37dd1e delete geometric_lib submodule
| diff --git a/IGI/LR1/geometric_lib b/IGI/LR1/geometric_lib
| deleted file mode 160000
| index d078c8d..0000000
| --- a/IGI/LR1/geometric_lib
| +++ /dev/null
| @@ -1,+0,0 @@
| -Subproject commit d078c8d9ee6155f3cb0e577d28d337b791de28e2
* 8a6f445 rename readme.txt file and modify test.txt file
| diff --git a/IGI/LR1/Readme.md b/IGI/LR1/Readme.md
| new file mode 100644
| index 0000000..9a8d8aa
| --- /dev/null
| +++ b/IGI/LR1/Readme.md
| @@ -0,0 +1 @@
| +Lorem Ipsum
| diff --git a/IGI/LR1/bar/425/socket.py b/IGI/LR1/bar/425/socket.py
| new file mode 100644
| index 0000000..521442a
| --- /dev/null
| +++ b/IGI/LR1/bar/425/socket.py
| @@ -0,0 +1,24 @@
| +import socket
| +
| +# creating server socket
| +sock = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
| +sock.setsockopt(socket.SOL_SOCKET, socket.SO_REUSEADDR, 1)
| +sock.bind(('localhost', 5001))
| +sock.listen()
| +
| +# create client socket and establish connection between them
| +# while it is True, they are connected
| +while True:
| +    print('Before .accept()')
| +    client, addr = sock.accept()
| +    print(f'Connection from {addr}')
| +
| +    while True:
| +        print('Before .recv()')
| +        request = client.recv(4096)
| +
| +        if not request:
| +            break
```

```
| diff --git a/IGI/LR1/bar/bin/577/cicle.py b/IGI/LR1/bar/bin/577/cicle.py
| new file mode 100644
| index 000000..12bb3ec
| --- /dev/null
| +++ b/IGI/LR1/bar/bin/577/cicle.py
| @@ -0,0 +1,4 @@
| +lst = list(range(1, 10))
| +
| +for i in lst:
| +    print(i)
diff --git a/IGI/LR1/bar/bin/README.txt b/IGI/LR1/bar/bin/README.txt
new file mode 100644
index 000000..fd87549
--- /dev/null
+++ b/IGI/LR1/bar/bin/README.txt
@@ -0,0 +1,2 @@
+This's the best subject i've ever seen in my life
+
diff --git a/IGI/LR1/bar/bin/readme.txt b/IGI/LR1/bar/bin/readme.txt
deleted file mode 100644
index 8e5513f..0000000
--- a/IGI/LR1/bar/bin/readme.txt
+++ /dev/null
@@ -1,2 +0,0 @@
-444
-
diff --git a/IGI/LR1/foo/test.txt b/IGI/LR1/foo/test.txt
index 8b8e485..980a0d5 100644
--- a/IGI/LR1/foo/test.txt
+++ b/IGI/LR1/foo/test.txt
@@ -1 +1 @@
-707
+Hello World!
diff --git a/IGI/LR1/geometric_lib b/IGI/LR1/geometric_lib
new file mode 160000
index 000000..d078c8d
--- /dev/null
+++ b/IGI/LR1/geometric_lib
@@ -0,0 +1 @@
+Subproject commit d078c8d9ee6155f3cb0e577d28d337b791de28e2
* 9bddad8 modify test.txt and readme.txt files
diff --git a/IGI/LR1/bar/bin/readme.txt b/IGI/LR1/bar/bin/readme.txt
new file mode 100644
index 000000..8e5513f
--- /dev/null
+++ b/IGI/LR1/bar/bin/readme.txt
@@ -0,0 +1,2 @@
+444
+
diff --git a/IGI/LR1/foo/test.txt b/IGI/LR1/foo/test.txt
new file mode 100644
index 000000..8b8e485
--- /dev/null
+++ b/IGI/LR1/foo/test.txt
@@ -0,0 +1 @@
+444
```

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

```
[shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26 <main>
└$ cd IGI
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26/IGI <main>
└$ cd LR1
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
└$ touch file.txt
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
└$ git status
On branch main
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    file.txt
    geometric_lib/
nothing added to commit but untracked files present (use "git add" to track)
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
└$ vim test.txt
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
└$ git status
On branch main
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    file.txt
    geometric_lib/
    test.txt
nothing added to commit but untracked files present (use "git add" to track)

nothing added to commit but untracked files present (use "git add" to track)
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
└$ git add test.txt
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26/IGI/LR1 <main>

└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
└$ git commit -m "add test.txt file"
[main 21c8743] add test.txt file
 1 file changed, 1 insertion(+)
  create mode 100644 IGI/LR1/test.txt
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
└$ git status
On branch main
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    file.txt
    geometric_lib/
nothing added to commit but untracked files present (use "git add" to track)
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
└$ git reset --soft HEAD^
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~]/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
└$ git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   test.txt

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

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

```
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main●>
└$ touch to_add_file.txt
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main●>
└$ git status
On branch main
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    file.txt
    geometric lib/
    to_add_file.txt

nothing added to commit but untracked files present (use "git add" to track)
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main●>
└$ git add to_add_file.txt
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main●>
└$ git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   to_add_file.txt

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

└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main●>
└$ git restor --staged .
git: 'restor' is not a git command. See 'git --help'.

The most similar commands are
  restore
  remote
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main●>
└$ git restore --staged .
└shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main●>
└$ git status
On branch main
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    file.txt
    geometric lib/
    to_add_file.txt
```

1) внесите изменения в файл в вашем Git-репозитории и затем верните его в исходное состояние.

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ echo "$(to add file.txt"
Hello, how are you?
It's time to sleep
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ echo "It's time to sleep" >> to add file.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ echo "It's time" >> to add file.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ echo "$(to add file.txt"
Hello, how are you?
It's time to sleep
It's time to sleep
It's time
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:  to_add_file.txt

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:   to_add_file.txt

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    Good
    file.txt
    geometric.lib

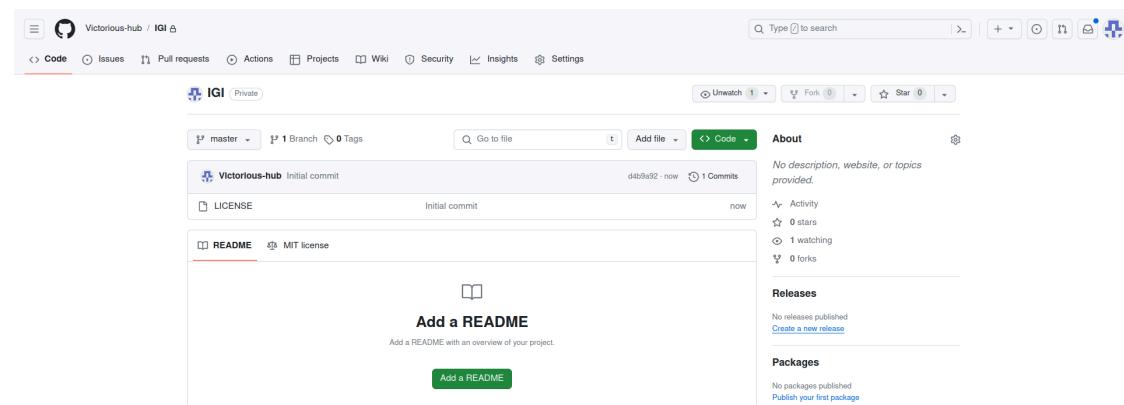
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ git restore .
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:  to_add_file.txt

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    Good
    file.txt
    geometric.lib

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ echo "$(to add file.txt"
Hello, how are you?
It's time to sleep
```

5. Выполните следующие действия с удаленным репозиторием:

- создайте удаленный репозиторий (на github.com)



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

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git remote add origin https://github.com/Victorious-hub/IGI.git

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git remote add originssh git@github.com:Victorious-hub/Patient_Monitoring_App.git
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git remote
origin
originssh
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git fetch originssh
The authenticity of host 'github.com (140.82.121.3)' can't be established.
ED25519 key fingerprint is SHA256:+DiY3wvvV6TuJJhbpZisF/zLDA0zPMSvHdkr4UvC0qU.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'github.com' (ED25519) to the list of known hosts.
remote: Enumerating objects: 790, done.
remote: Counting objects: 100% (288/288), done.
remote: Compressing objects: 100% (200/200), done.
remote: Total 790 (delta 156), reused 179 (delta 81), pack-reused 502
Receiving objects: 100% (790/790), 177.55 KiB | 463.00 KiB/s, done.
Resolving deltas: 100% (461/461), done.
From github.com:Victorious-hub/Patient_Monitoring_App
 * [new branch]      dev      -> originssh/dev

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git commit -m "add test.txt file"
[main f6233ee] add test.txt file
 1 file changed, 2 insertions(+)
 create mode 100644 IGI/LR1/to_add_file.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git push originssh main
To github.com:Victorious-hub/IGI.git
 ! [rejected]      main -> main (non-fast-forward)
error: failed to push some refs to 'github.com:Victorious-hub/IGI.git'
hint: Updates were rejected because the tip of your current branch is behind
hint: its remote counterpart. Integrate the remote changes (e.g.
hint: 'git pull ...') before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git pull --rebase originssh master
fatal: couldn't find remote ref master
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git pull --rebase originssh main
From github.com:Victorious-hub/IGI
 * branch            main      -> FETCH_HEAD
warning: unable to rmdir 'IGI/LR1/geometric_lib': Directory not empty
Successfully rebased and updated refs/heads/main.
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git push originssh main
Enumerating objects: 43, done.
Counting objects: 100% (43/43), done.
Delta compression using up to 16 threads
Compressing objects: 100% (23/23), done.
Writing objects: 100% (42/42), 3.13 KiB | 110.00 KiB/s, done.
Total 42 (delta 4), reused 1 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (4/4), done.
To github.com:Victorious-hub/IGI.git
 d4b9a92..c31bf19  main -> main
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
```

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git remote
origin
originssh
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ git fetch originssh
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26 <main>
$ 
```

с) измените несколько файлов в вашем проекте и перенесите их в удаленный репозиторий,

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ ls
bar file.txt foo geometric_lib Good Readme.md test.txt to_add_file.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ echo "I wanna change smth" >> to_add_file.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ 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:   to_add_file.txt

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

no changes added to commit (use "git add" and/or "git commit -a")
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ git commit -m "modify to_add_file.txt"
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:   to_add_file.txt

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

no changes added to commit (use "git add" and/or "git commit -a")
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ git add to_add_file.txt
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   to_add_file.txt

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

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ git commit -m "modify to_add_file.txt"
[main ba8483f] modify to_add_file.txt
1 file changed, 1 insertion(+)
```

```

shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ git commit -m "modify to_add_file.txt"
[main ba8483f] modify to_add_file.txt
 1 file changed, 1 insertion(+)
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ git push origin main
Enumerating objects: 9, done.
Counting objects: 100% (9/9), done.
Delta compression using up to 16 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (5/5), 465 bytes | 465.00 KiB/s, done.
Total 5 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:Victorious-hub/IGI.git
  c31bf19..ba8483f  main -> main
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ 

```

The screenshot shows a GitHub repository named 'IGI'. At the top, there's a commit history table:

Author	Commit Message	Time	Commits
Victorious-hub	modify to_add_file.txt	ba8483f · 1 minute ago	8 Commits
	IGI/LR1	modify to_add_file.txt	1 minute ago
	STRWEB	add test.txt files in STRWEB	6 minutes ago
	LICENSE	Initial commit	35 minutes ago

Below the commit history is a section for adding a README:

README MIT license

Add a README with an overview of your project.

Add a README

d) переименуйте свой удаленный репозиторий

Repository name

✓
Rename

e) получите данные из удаленного репозитория

IGI_STRWEB / IGI / LR1 / Readme.md in main

Cancel changes Commit changes...
Edit Preview
Spaces 2 Soft wrap

```
1 Lorem Ipsum
2
3 I'm changing file in a remote repository.
4
```

d) получите данные из удаленного репозитория

```
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ git fetch origin ssh
remote: Enumerating objects: 14, done.
remote: Counting objects: 100% (14/14), done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 10 (delta 1), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (10/10), 2.33 KiB | 1.16 MiB/s, done.
From github.com:Victorious-hub/IGI
 ba8483f..1485231 main -> originssh/main
shyskov@shyskov-ASUS-TUF-Gaming-A15-FA507NU-FA507NU ~/Documents/253502_SHYSHKO_26/IGI/LR1 <main>
$ ls
```

f) просмотреть историю изменений

```
* formatba8483f Shyskov Fri Feb 16 22:51:53 2024 +0300 modify to add file.txt
* formatc31bf19 Shyskov Fri Feb 16 22:44:36 2024 +0300 add test.txt file
* format46fc144 Shyskov Fri Feb 16 21:50:09 2024 +0300 add test.txt file
* formatc1ca4fa Shyskov Fri Feb 16 19:49:45 2024 +0300 add test.txt files in STRWEB
* format668d2ae Shyskov Fri Feb 16 19:42:00 2024 +0300 delete geometric_lib submodule
* format7b5ee82 Shyskov Fri Feb 16 19:36:39 2024 +0300 rename readme.txt file and modify test.txt file
* format99e5386 Shyskov Fri Feb 16 14:40:19 2024 +0300 modify test.txt and readme.txt files
* formatd4b9a92 Shyskov Fri Feb 16 22:17:48 2024 +0300 Initial commit
* format4a4e8ac Shyskov Fri Feb 16 20:39:07 2024 +0300 Initial commit STRWEB_LR4
| * format4504a2d Shyskov Fri Feb 16 20:37:43 2024 +0300 Initial commit STRWEB_LR3
|
| * formatc12a8a2 Shyskov Fri Feb 16 20:36:08 2024 +0300 Initial commit STRWEB_LR2
|
| * format41ae523 Shyskov Fri Feb 16 20:32:07 2024 +0300 Initial commit STRWEB_LR1
|
| * formata30cab8 Shyskov Fri Feb 16 20:27:50 2024 +0300 Initial commit STRWEB
|
| * format38e6ce9 Shyskov Fri Feb 16 20:24:53 2024 +0300 Initial commit IGI_LR5
|
| * format9c93855 Shyskov Fri Feb 16 20:20:20 2024 +0300 Initial commit IGI_LR4
|
| * formatea0814c Shyskov Fri Feb 16 20:16:53 2024 +0300 Initial commit IGI_LR3
|
| * formatdcda516 Shyskov Fri Feb 16 20:13:00 2024 +0300 Initial commit IGI_LR2
|
| * format965634a Shyskov Fri Feb 16 20:07:27 2024 +0300 delete STRWEB and add file
|
| * format71d3f7d Shyskov Fri Feb 16 19:54:11 2024 +0300 delete STRWEB and add IGI.txt file
|
* format51f5b65 Shyskov Fri Feb 16 19:49:45 2024 +0300 add test.txt files in STRWEB
* formatb37dd1e Shyskov Fri Feb 16 19:42:00 2024 +0300 delete geometric_lib submodule
* format8a6f445 Shyskov Fri Feb 16 19:36:39 2024 +0300 rename readme.txt file and modify test.txt file
* format9bddad8 Shyskov Fri Feb 16 14:40:19 2024 +0300 modify test.txt and readme.txt files
~
```