

Отчет по лабораторной работе №1

Использование git

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Цель работы

Цель данной работы — Изучение основ работы с системой контроля версий git.

Задание

Номер задачи	Описание задачи
1.1	Подготовка к работе с git.
1.2	Создание проекта.
1.3	Внесение изменений в файлы.
1.4	Индексация изменений.
1.5	Отмена локальных изменений (до индексации).
1.6	Отмена проиндексированных изменений.
1.7	Отмена коммитов.
1.8	Удаление коммитов из ветки.
1.9	Удаление тега оорс.
1.10	Внесение изменений в коммиты.
1.11	Перемещение файлов.
1.12	Второй способ перемещения файлов.
1.13	Подробнее о структуре.
1.14	Git внутри: Каталог .git.
1.15	Работа непосредственно с объектами git.

Номер задачи	Описание задачи
1.16	Создание ветки.
1.17	Навигация по веткам.
1.18	Изменения в ветке master.
1.19	Сделайте коммит изменений README.md в ветку master.
1.20	Слияние.
1.21	Создание конфликта.
1.22	Разрешение конфликтов.
1.23	Сброс ветки style.
1.24	Сброс ветки master.
1.25	Перебазирование.
1.26	Слияние в ветку master.
1.27	Клонирование репозитория.
1.28	Просмотр клонированного репозитория.
1.29	Что такое origin?
1.30	Удаленные ветки.
1.31	Изменение оригинального репозитория.
1.32	Слияние извлеченных изменений.
1.33	Добавление ветки наблюдения.
1.34	Чистые репозитории.
1.35	Создайте чистый репозиторий.
1.36	Добавление удаленного репозитория.
1.37	Отправка изменений.
1.38	Извлечение общих изменений.

Теоретическое введение

Имя каталога	Описание каталога
/	Корневая директория, содержащая всю файловую
/bin	Основные системные утилиты, необходимые как в однопользовательском режиме, так и при обычной работе всем пользователям
/etc	Общесистемные конфигурационные файлы и файлы конфигурации установленных программ
/home	Содержит домашние директории пользователей, которые, в свою очередь, содержат персональные настройки и данные пользователя
/media	Точки монтирования для сменных носителей
/root	Домашняя директория пользователя root
/tmp	Временные файлы

Имя каталога	Описание каталога
/usr	Вторичная иерархия для данных пользователя

Выполнение лабораторной работы

```
nikit@MSI MINGW64 ~  
$ git config --global user.name "nkt1lyn"  
  
nikit@MSI MINGW64 ~  
$ git config --global user.email "your_email@whatever.com"
```

```
nikit@MSI MINGW64 ~  
$ git config --global core.autocrlf true  
  
nikit@MSI MINGW64 ~  
$ git config --global core.safecrlf true
```

```
nikit@MSI MINGW64 ~  
$ git config --global core.quotePath off
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01 (master)  
$ mkdir hello  
  
nikit@MSI MINGW64 ~/work/MatMod/lab01 (master)  
$ cd hello  
  
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)  
$ touch hello.html  
  
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)  
$ echo "Hello, World!" > hello.html
```

```
nikit@MSI MINGW64 ~/work  
$ git init  
Initialized empty Git repository in C:/Users/nikit/work/.git/
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git add hello.html

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git commit -m "Initial Commit"
[master (root-commit) ceaafc19] Initial Commit
1 file changed, 1 insertion(+)
create mode 100644 MatMod/lab01/hello/hello.html
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git status
On branch master
nothing to commit, working tree clean
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git status
On branch master
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:   hello.html

no changes added to commit (use "git add" and/or "git commit -a")
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git add hello.html

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   hello.html
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git commit
[master b72d29d] «Added h1 tag»
1 file changed, 1 insertion(+), 1 deletion(-)

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git status
On branch master
nothing to commit, working tree clean
```

```

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git add hello.html

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git add hello.html

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   hello.html

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:   hello.html

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   hello.html

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:   hello.html

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git status
On branch master
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:   hello.html

no changes added to commit (use "git add" and/or "git commit -a")

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git status
On branch master
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:   hello.html

no changes added to commit (use "git add" and/or "git commit -a")

```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git add .

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   hello.html

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git commit -m "Added HTML header"
[master cc9114b] Added HTML header
1 file changed, 2 insertions(+)
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git log
commit cc9114b739a852693afa16dcac0d93c5633ba41b (HEAD -> master)
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:54:29 2022 +0300

    Added HTML header

commit 1b66c10cea770f24858ee62dc3309a58e3b7c6d8
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:52:49 2022 +0300

    Added standard HTML page tags

commit b72d29dc19d358aed484d09917714a8bda199b1e
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:46:21 2022 +0300

    «Added h1 tag»

commit ceafc195e550c95a2a22801bdf0cf6eb5cf067d0
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:42:41 2022 +0300

    Initial Commit

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git log --pretty=oneline
cc9114b739a852693afa16dcac0d93c5633ba41b (HEAD -> master) Added HTML header
1b66c10cea770f24858ee62dc3309a58e3b7c6d8 Added standard HTML page tags
b72d29dc19d358aed484d09917714a8bda199b1e «Added h1 tag»
ceafc195e550c95a2a22801bdf0cf6eb5cf067d0 Initial Commit
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git log --pretty=oneline
cc9114b739a852693afa16dcac0d93c5633ba41b (HEAD -> master) Added HTML header
1b66c10cea770f24858ee62dc3309a58e3b7c6d8 Added standard HTML page tags
b72d29dc19d358aed484d09917714a8bda199b1e «Added h1 tag»
ceafc195e550c95a2a22801bdf0cf6eb5cf067d0 Initial Commit
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello ((ceafc19...))
$ cat hello.html
Hello, World!
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello ((ceafc19..
$ git checkout master
Previous HEAD position was ceafc19 Initial Commit
Switched to branch 'master'
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ cat hello.html
<html>
    <head>
    </head>
    <body>
        <h1>Hello, World!</h1>
    </body>
</html>
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git tag v1
```

15. Переключение по имени тега

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git checkout v1^
Note: switching to 'v1^'.
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello ((1b66c10...))
$ cat hello.html
<html>
    <body>
        <h1>Hello, World!</h1>
    </body>
</html>
```

16. Просмотр тегов с помощью команды tag

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello ((1b66c10...))
$ git tag v1-beta
```

18. Изменяем файл hello.html

19. Проверяем состояние

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello ((v1-beta))
$ git checkout v1
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello ((v1))
$ git checkout v1-beta
```

21. Изменяем файл и индексируем изменения

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello ((v1-beta))
$ git tag
v1
v1-beta
```

22. Проверьте состояние

```
nikit@MSI MINGW64 ~/work (master)
$ git status
On branch master
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:   MatMod/lab01/hello/hello.html

no changes added to commit (use "git add" and/or "git commit -a")
```



```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git checkout hello.html
Updated 1 path from the index

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git status
On branch master
nothing to commit, working tree clean

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ cat hello.html
<html>
    <head>
    </head>
    <body>
        <h1>Hello, World!</h1>
    </body>
</html>
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git add hello.html
```

25. Отменяем коммит

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   hello.html
```

26. Изменяем файл и делаем коммит

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git reset HEAD hello.html
Unstaged changes after reset:
M       MatMod/lab01/hello/hello.html
```

27. Делаем коммит с новыми изменениями, отменяя предыдущие

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git checkout hello.html
Updated 1 path from the index

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git status
On branch master
nothing to commit, working tree clean
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git add hello.html

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git commit -m "Oops, we didn't want this commit"
[master 309f348] Oops, we didn't want this commit
1 file changed, 1 insertion(+)
```

29. Выполняем команду git reset

30. Проверяем историю

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git revert HEAD
[master 2a91806] Revert "Oops, we didn't want this commit"
1 file changed, 1 deletion(-)
```

31. Отмечаем ветку

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git log
commit 2a918067de5b8ab34fef30c85d944d95b767b2c3 (HEAD -> master)
Author: nktilyn <nikita.ilyn@ya.ru>
Date:   Fri Feb 11 14:44:33 2022 +0300

    Revert "Oops, we didn't want this commit"

    This reverts commit 309f348faabb4aef4f6da516293759b8dcd87e48.

commit 309f348faabb4aef4f6da516293759b8dcd87e48
Author: nktilyn <nikita.ilyn@ya.ru>
Date:   Fri Feb 11 14:36:34 2022 +0300

    Oops, we didn't want this commit

commit cc9114b739a852693afa16dcac0d93c5633ba41b (tag: v1)
Author: nktilyn <your_email@whatever.com>
Date:   Fri Feb 11 13:54:29 2022 +0300

    Added HTML header

commit 1b66c10cea770f24858ee62dc3309a58e3b7c6d8 (tag: v1-beta)
Author: nktilyn <your_email@whatever.com>
Date:   Fri Feb 11 13:52:49 2022 +0300

    Added standard HTML page tags

commit b72d29dc19d358aed484d09917714a8bda199b1e
Author: nktilyn <your_email@whatever.com>
Date:   Fri Feb 11 13:46:21 2022 +0300

    «Added h1 tag»

commit ceafc195e550c95a2a22801bdf0cf6eb5cf067d0
Author: nktilyn <your_email@whatever.com>
Date:   Fri Feb 11 13:42:41 2022 +0300

    Initial Commit
```

32. Делаем сброс коммитов к предшествующим коммиту Oops

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git tag oops
```

33. Удаление тега Oops

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git reset --hard v1
HEAD is now at cc9114b Added HTML header

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git log
commit cc9114b739a852693afa16dcac0d93c5633ba41b (HEAD -> master, tag: v1)
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:54:29 2022 +0300

    Added HTML header

commit 1b66c10cea770f24858ee62dc3309a58e3b7c6d8 (tag: v1-beta)
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:52:49 2022 +0300

    Added standard HTML page tags

commit b72d29dc19d358aed484d09917714a8bda199b1e
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:46:21 2022 +0300

    «Added h1 tag»

commit ceafc195e550c95a2a22801bdf0cf6eb5cf067d0
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:42:41 2022 +0300

    Initial Commit
```

34. Изменяем страницу и делаем коммит

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git reset --hard v1
HEAD is now at cc9114b Added HTML header

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git log
commit cc9114b739a852693afa16dcac0d93c5633ba41b (HEAD -> master, tag: v1)
Author: nktilyn <your_email@whatever.com>
Date:   Fri Feb 11 13:54:29 2022 +0300

    Added HTML header

commit 1b66c10cea770f24858ee62dc3309a58e3b7c6d8 (tag: v1-beta)
Author: nktilyn <your_email@whatever.com>
Date:   Fri Feb 11 13:52:49 2022 +0300

    Added standard HTML page tags

commit b72d29dc19d358aed484d09917714a8bda199b1e
Author: nktilyn <your_email@whatever.com>
Date:   Fri Feb 11 13:46:21 2022 +0300

    «Added h1 tag»

commit ceafc195e550c95a2a22801bdf0cf6eb5cf067d0
Author: nktilyn <your_email@whatever.com>
Date:   Fri Feb 11 13:42:41 2022 +0300

    Initial Commit
```

35. Изменяем предыдущий коммит

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git tag -d oops
Deleted tag 'oops' (was 2a91806)

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git log --all
commit cc9114b739a852693afa16dcac0d93c5633ba41b (HEAD -> master, tag: v1)
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:54:29 2022 +0300

    Added HTML header

commit 1b66c10cea770f24858ee62dc3309a58e3b7c6d8 (tag: v1-beta)
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:52:49 2022 +0300

    Added standard HTML page tags

commit b72d29dc19d358aed484d09917714a8bda199b1e
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:46:21 2022 +0300

    «Added h1 tag»

commit ceafc195e550c95a2a22801bdf0cf6eb5cf067d0
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:42:41 2022 +0300

    Initial Commit

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ |
```

36. Перемещаем файл hello.html в каталог lib

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git tag -d oops
Deleted tag 'oops' (was 2a91806)

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git log --all
commit cc9114b739a852693afa16dcac0d93c5633ba41b (HEAD -> master, tag: v1)
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:54:29 2022 +0300

    Added HTML header

commit 1b66c10cea770f24858ee62dc3309a58e3b7c6d8 (tag: v1-beta)
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:52:49 2022 +0300

    Added standard HTML page tags

commit b72d29dc19d358aed484d09917714a8bda199b1e
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:46:21 2022 +0300

    «Added h1 tag»

commit ceafc195e550c95a2a22801bdf0cf6eb5cf067d0
Author: nkt1lyn <your_email@whatever.com>
Date:   Fri Feb 11 13:42:41 2022 +0300

    Initial Commit

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ |
```

37. Делаем коммит в новый каталог

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git add hello.html

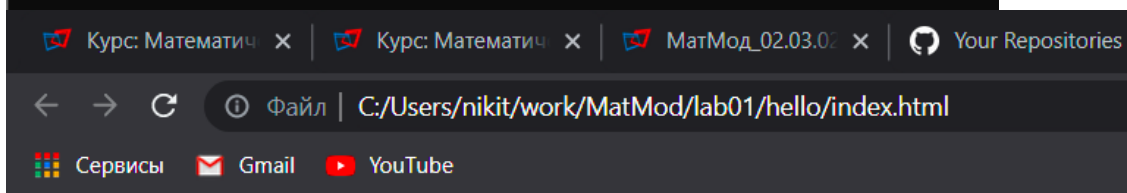
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git commit -m "Add an author comment"
[master 3df9cf4] Add an author comment
1 file changed, 1 insertion(+)
```

38. Добавляем файл Index.html

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ touch index.html

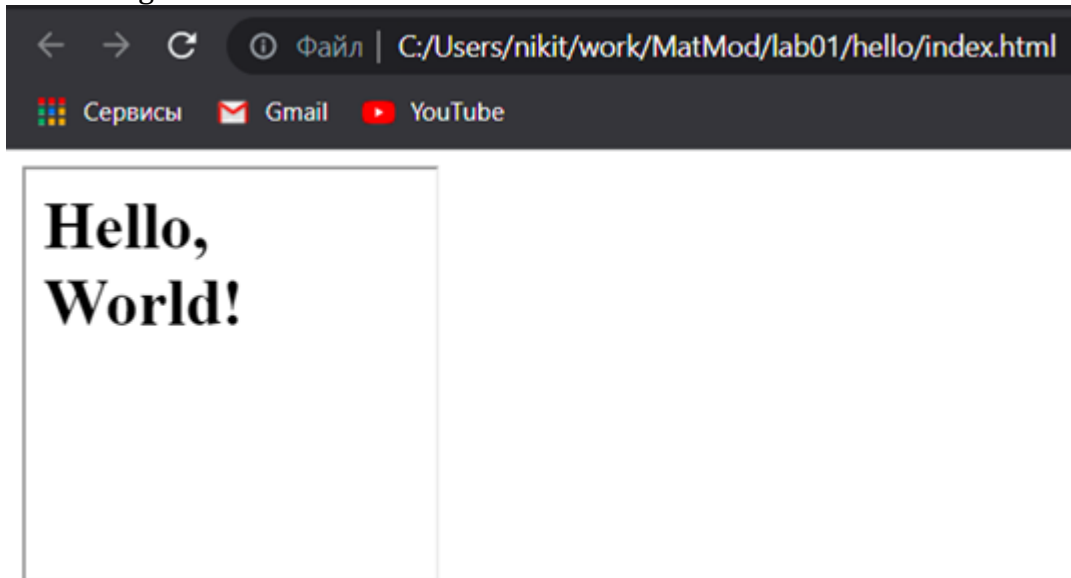
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git add index.html

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git commit -m "Added index.html."
[master b573666] Added index.html.
1 file changed, 5 insertions(+)
create mode 100644 MatMod/lab01/hello/index.html
```



**Hello,
World!**

39. Каталог .git



40. Углубляемся в базу данных объектов

```
nikit@MSI MINGW64 ~/work (master)
$ ls -C .git
COMMIT_EDITMSG      config      HEAD       index      logs/      ORIG_HEAD  refs/
COMMIT_EDITMSG.bak  description hooks/     info/     objects/   packed-refs
```

41. Открываем Config файл

```
nikit@MSI MINGW64 ~/work (master)
$ cat .git/config
[core]
    repositoryformatversion = 0
    filemode = false
    bare = false
    logallrefupdates = true
    ignorecase = true
```

42. Ветки и теги

```
nikit@MSI MINGW64 ~/work (master)
$ ls .git/refs
heads/  tags/

nikit@MSI MINGW64 ~/work (master)
$ ls .git/refs/heads
master

nikit@MSI MINGW64 ~/work (master)
$ ls .git/refs/tags
v1  v1-beta

nikit@MSI MINGW64 ~/work (master)
$ cat .git/refs/tags/v1
cc9114b739a852693afa16dcac0d93c5633ba41b
```

43. Открываем файл HEAD

```
nikit@MSI MINGW64 ~/work (master)
$ cat .git/HEAD
ref: refs/heads/master
```

44. Поиск последнего коммита

```
nikit@MSI MINGW64 ~/work (master)
$ git log --max-count=1
commit b573666a29e90abcc6cd3565c3358e91d2a57c35 (HEAD -> master)
Author: nkt1lyn <nikita.ilyn@ya.ru>
Date:   Fri Feb 11 15:26:19 2022 +0300

    Added index.html.
```

```

nikit@MSI MINGW64 ~/work (master)
$ git log --max-count=1
commit b573666a29e90abcc6cd3565c3358e91d2a57c35 (HEAD -> master)
Author: nkt1lyn <nikita.ilyn@ya.ru>
Date:   Fri Feb 11 15:26:19 2022 +0300

    Added index.html.

nikit@MSI MINGW64 ~/work (master)
$ git cat-file -t b573666a
commit

nikit@MSI MINGW64 ~/work (master)
$ git cat-file -p b573666a
tree d18d774bd50654b67d163536b4b8cf272cf998ea
parent c82c8cef49aea0c4ab937a8f73b6308e56a49a92
author nkt1lyn <nikita.ilyn@ya.ru> 1644582379 +0300
committer nkt1lyn <nikita.ilyn@ya.ru> 1644582379 +0300

    Added index.html.

```

46. Поиск дерева

```

nikit@MSI MINGW64 ~/work (master)
$ git cat-file -p d18d774b
040000 tree 2f6f9eb2efc58d71c4e66f1030ff90805603b288      MatMod

```

47. Вывод каталога lib

```

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git cat-file -p c82c8cef
tree 829a21559afb90d53f0c0b0239d5ce7c8789308b
parent 1a5fc43d4b3121b4fcde23793e217260741c11ba
author nkt1lyn <nikita.ilyn@ya.ru> 1644581645 +0300
committer nkt1lyn <nikita.ilyn@ya.ru> 1644581645 +0300

    Moved hello.html to lib

```

48. Вывод файла hello.html

```

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git cat-file -p 1a5fc43d4
tree 2a654d8b12f77c1793a91f88d366a9cf037b3c5b
parent cc9114b739a852693afa16dcac0d93c5633ba41b
author nkt1lyn <nikita.ilyn@ya.ru> 1644580613 +0300
committer nkt1lyn <nikita.ilyn@ya.ru> 1644581379 +0300

    Add an author/email comment

```

49. Создаем ветку

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git checkout -b style
Switched to a new branch 'style'

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style)
$ git status
On branch style
nothing to commit, working tree clean
```

50. Добавляем файл стилей style.css

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style)
$ touch lib/style.css

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style)
$ git add lib/style.css

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style)
$ git commit -m "Added css stylesheet"
[style ff16433] Added css stylesheet
1 file changed, 3 insertions(+)
create mode 100644 MatMod/lab01/hello/lib/style.css
```

51. Изменяем файл index.html

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style)
$ git add lib/hello.html

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style)
$ git commit -m "Hello uses style.css"
[style e20e7cb] Hello uses style.css
1 file changed, 2 insertions(+)
```

52. Переключаемся на ветку master

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git checkout style
Switched to branch 'style'

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style)
$ cat lib/hello.html
<!-- Author: Nikita Ilyn (nikita.ilyn@ya.ru) -->
<html>
    <head>
        <link type="text/css" rel="stylesheet"
        media="all" href="style.css" />
    </head>
    <body>
        <h1>Hello, World!</h1>
    </body>
</html>
```

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style)
$ git checkout master
Switched to branch 'master'

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ touch README.md

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ echo "This is the Hello World example from the git tutorial." > README.md
```

54. Создаем файл README в ветке master

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style)
$ git checkout master
Switched to branch 'master'

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ touch README.md

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ echo "This is the Hello World example from the git tutorial." > README.md
```

55. Делаем коммит изменений

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git add README.md

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git commit -m "Added README"
[master a3e4e35] Added README
1 file changed, 1 insertion(+)
create mode 100644 MatMod/lab01/hello/README.md
```

56. Просматриваем текущие ветки

```
$ git log --graph --all
* commit a3e4e356568e5ee70a546a526fe49e773e647a4f (HEAD -> master)
| Author: nkt1lyn <nikita.ilyn@ya.ru>
| Date:   Fri Feb 11 16:04:20 2022 +0300
|
|     Added README
|
| * commit e20e7cb909a35e9199e5e3bd5f13ad8ff45e4816 (style)
| | Author: nkt1lyn <nikita.ilyn@ya.ru>
| | Date:   Fri Feb 11 15:59:28 2022 +0300
| |
| |     Hello uses style.css
| |
| | * commit ff1643370ab21c26c0ccc61d76629f7ac5911b65
| | / Author: nkt1lyn <nikita.ilyn@ya.ru>
| |   Date:   Fri Feb 11 15:57:50 2022 +0300
| |
| |     Added css stylesheet
| |
| | * commit b573666a29e90abcc6cd3565c3358e91d2a57c35
| | | Author: nkt1lyn <nikita.ilyn@ya.ru>
| | | Date:   Fri Feb 11 15:26:19 2022 +0300
| | |
| | |     Added index.html.
| | |
| | | * commit c82c8cef49aea0c4ab937a8f73b6308e56a49a92
| | | | Author: nkt1lyn <nikita.ilyn@ya.ru>
| | | | Date:   Fri Feb 11 15:14:05 2022 +0300
| | | |
| | | |     Moved hello.html to lib
| | | |
| | | | * commit 1a5fc43d4b3121b4fcde23793e217260741c11ba
| | | | | Author: nkt1lyn <nikita.ilyn@ya.ru>
| | | | | Date:   Fri Feb 11 14:56:53 2022 +0300
| | | | |
| | | | |     Add an author/email comment
| | | | |
| | | | | * commit cc9114b739a852693afa16dcac0d93c5633ba41b (tag: v1)
| | | | | | Author: nkt1lyn <your_email@whatever.com>
| | | | | | Date:   Fri Feb 11 13:54:29 2022 +0300
| | | | | |
| | | | | |     Added HTML header
| | | | | |
| | | | | | * commit 1b66c10cea770f24858ee62dc3309a58e3b7c6d8 (tag: v1-beta)
| | | | | | | Author: nkt1lyn <your_email@whatever.com>
| | | | | | | Date:   Fri Feb 11 13:52:49 2022 +0300
| | | | | | |
| | | | | | |     Added standard HTML page tags
| | | | | | |
| | | | | | | * commit b72d29dc19d358aed484d09917714a8bda199b1e
| | | | | | | | Author: nkt1lyn <your_email@whatever.com>
```

57. Выполняем слияние веток

```
$ git log --graph --all
* commit a3ede356568e5ee70a546a526fe49e773e647a4f (HEAD -> master)
  Author: nktilyn <nikita.ilyn@ya.ru>
  Date:   Fri Feb 11 16:04:20 2022 +0300

    Added README

* commit e20e7cb909a35e9199e5e3bd5f13ad8ff45e4816 (style)
  Author: nktilyn <nikita.ilyn@ya.ru>
  Date:   Fri Feb 11 15:59:28 2022 +0300

    Hello uses style.css

* commit ff1643370ab21c26c0ccc61d76629f7ac5911b65
  Author: nktilyn <nikita.ilyn@ya.ru>
  Date:   Fri Feb 11 15:57:50 2022 +0300

    Added css stylesheet

* commit b573666a29e98abcc6cd3565c3358e91d2a57c35
  Author: nktilyn <nikita.ilyn@ya.ru>
  Date:   Fri Feb 11 15:26:19 2022 +0300

    Added index.html.

* commit c82c8cef49aea0c4ab937a8f73b6308e56a49a92
  Author: nktilyn <nikita.ilyn@ya.ru>
  Date:   Fri Feb 11 15:14:05 2022 +0300

    Moved hello.html to lib

* commit 1a5fc43d4b3121b4fcde23793e217260741c11ba
  Author: nktilyn <nikita.ilyn@ya.ru>
  Date:   Fri Feb 11 14:56:53 2022 +0300

    Add an author/email comment

* commit cc9114b739a852693af16dcac0d93c5633ba41b (tag: v1)
  Author: nktilyn <your_email@whatever.com>
  Date:   Fri Feb 11 13:54:29 2022 +0300

    Added HTML header

* commit 1b66c10cea770f24858ee62dc3309a58e3b7c6d8 (tag: v1-beta)
  Author: nktilyn <your_email@whatever.com>
  Date:   Fri Feb 11 13:52:49 2022 +0300

    Added standard HTML page tags

* commit b72d29dc19d358aed484d09917714a8bd199b1e
  Author: nktilyn <your_email@whatever.com>
```

58. Создаем конфликт

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style)
$ git log --graph --all
*   commit 7b54f2d5a6ae9bbab6b07f394517089eb5e15828 (HEAD -> style)
|   Merge: e20e7cb a3e4e35
|   Author: nkt1lyn <nikita.ilyn@ya.ru>
|   Date:   Fri Feb 11 16:05:54 2022 +0300
|
|       Merge branch 'master' into style
|
|   *   commit a3e4e356568e5ee70a546a526fe49e773e647a4f (master)
|   |   Author: nkt1lyn <nikita.ilyn@ya.ru>
|   |   Date:   Fri Feb 11 16:04:20 2022 +0300
|   |
|   |       Added README
|   |
|   *   commit e20e7cb909a35e9199e5e3bd5f13ad8ff45e4816
|   |   Author: nkt1lyn <nikita.ilyn@ya.ru>
|   |   Date:   Fri Feb 11 15:59:28 2022 +0300
|   |
|   |       Hello uses style.css
|   |
|   *   commit ff1643370ab21c26c0ccc61d76629f7ac5911b65
|   |   Author: nkt1lyn <nikita.ilyn@ya.ru>
|   |   Date:   Fri Feb 11 15:57:50 2022 +0300
|   |
|   |       Added css stylesheet
|   |
|   *   commit b573666a30e00abce6ed3565e3258e01d2a57e35
```

59. Выполняем слияние веток master и style, и решаем конфликт

```
nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style)
$ git log --graph --all
*   commit 7b54f2d5a6ae9bbab6b07f394517089eb5e15828 (HEAD -> style)
|   Merge: e20e7cb a3e4e35
|   Author: nkt1lyn <nikita.ilyn@ya.ru>
|   Date:   Fri Feb 11 16:05:54 2022 +0300
|
|       Merge branch 'master' into style
|
|   *   commit a3e4e356568e5ee70a546a526fe49e773e647a4f (master)
|   |   Author: nkt1lyn <nikita.ilyn@ya.ru>
|   |   Date:   Fri Feb 11 16:04:20 2022 +0300
|   |
|   |       Added README
|   |
|   *   commit e20e7cb909a35e9199e5e3bd5f13ad8ff45e4816
|   |   Author: nkt1lyn <nikita.ilyn@ya.ru>
|   |   Date:   Fri Feb 11 15:59:28 2022 +0300
|   |
|   |       Hello uses style.css
|   |
|   *   commit ff1643370ab21c26c0ccc61d76629f7ac5911b65
|   |   Author: nkt1lyn <nikita.ilyn@ya.ru>
|   |   Date:   Fri Feb 11 15:57:50 2022 +0300
|   |
|   |       Added css stylesheet
|   |
|   *   commit b573666a30e00abce6ed3565e3258e01d2a57e35
```



```

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style)
$ git checkout master
Switched to branch 'master'

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git add lib/hello.html

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git commit -m 'Life is great'
[master eff01c8] Life is great
1 file changed, 2 insertions(+), 1 deletion(-)

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$

```

```

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style)
$ git merge master
Auto-merging MatMod/lab01/hello/lib/hello.html
CONFLICT (content): Merge conflict in MatMod/lab01/hello/lib/hello.html
Automatic merge failed; fix conflicts and then commit the result.

```

62. Сброс ветки master

```

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style)
$ git merge master
Auto-merging MatMod/lab01/hello/lib/hello.html
CONFLICT (content): Merge conflict in MatMod/lab01/hello/lib/hello.html
Automatic merge failed; fix conflicts and then commit the result.

```

63. Перебазирование

```

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style|MERGING)
$ git add lib/hello.html

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (style|MERGING)
$ git commit -m "Merged master fixed conflict."
[style 9d089f2] Merged master fixed conflict.

```

```

nikit@MSI MINGW64 ~/work/MatMod/lab01/hello (master)
$ git log --graph --all
* commit a3e4e356568e5ee70a546a526fe49e773e647a4f (HEAD -> master)
| Author: nkt1lyn <nikita.ilyn@ya.ru>
| Date:   Fri Feb 11 16:04:20 2022 +0300
|
|     Added README
|
| * commit ff1643370ab21c26c0ccc61d76629f7ac5911b65 (style)
| / Author: nkt1lyn <nikita.ilyn@ya.ru>
|   Date:   Fri Feb 11 15:57:50 2022 +0300
|
|       Added css stylesheet
|
| * commit b573666a29e90abcc6cd3565c3358e91d2a57c35
| Author: nkt1lyn <nikita.ilyn@ya.ru>
| Date:   Fri Feb 11 15:26:19 2022 +0300
|
|       Added index.html.

```

```

nikit@MSI MINGW64 ~/cloned_hello (master)
$ cd ../hello

nikit@MSI MINGW64 ~/hello (style|REBASE 4/4)
$ git add README
fatal: pathspec 'README' did not match any files

nikit@MSI MINGW64 ~/hello (style|REBASE 4/4)
$ git commit -m "Changed README in original repo"

```

66. Проверяем README

```

nikit@MSI MINGW64 ~/cloned_hello (master)
$ cat README.md
This is the Hello World example from the git tutorial.

```

67. Сливаем извлеченные изменения

```

nikit@MSI MINGW64 ~/cloned_hello (master)
$ git merge origin/master
Updating 3f1b72a..06b6315
Fast-forward
 README.md | 2 +-
 1 file changed, 1 insertion(+), 1 deletion(-)

```

68. Добавляем локальную ветку, отслеживающую оригинальную

```
nikit@MSI MINGW64 ~/cloned_hello (master)
$ git branch -a
* master
  style
remotes/origin/HEAD -> origin/master
remotes/origin/master
remotes/origin/style

nikit@MSI MINGW64 ~/cloned_hello (master)
$ git log --max-count=2
commit 06b6315c7e2e532b02fae76fb0b7c9ce9a531552 (HEAD -> master, origin/master, origin/HEAD)
Author: nktilyn <nikita.ilyn@ya.ru>
Date: Thu Feb 10 18:45:54 2022 +0300

    Changed README in original repo

commit 3f1b72ad1213b699a60e7f839c5151e9e0bacb03 (origin/style, style)
Merge: ab90ff3 3b8a7d4
Author: nktilyn <nikita.ilyn@ya.ru>
Date: Thu Feb 10 18:02:16 2022 +0300

    Merged master fixed conflict.
```

69. Отправляем изменения

```
nikit@MSI MINGW64 ~
$ cd hello

nikit@MSI MINGW64 ~/hello (style|REBASE 4/4)
$ git remote add shared ../hello.git

nikit@MSI MINGW64 ~/hello (style|REBASE 4/4)
$ git checkout master
Already on 'master'
M      README.md

nikit@MSI MINGW64 ~/hello (style|REBASE 4/4)
$ git add README
fatal: pathspec 'README' did not match any files

nikit@MSI MINGW64 ~/hello (style|REBASE 4/4)
$ git add README.md

nikit@MSI MINGW64 ~/hello (style|REBASE 4/4)
$ git commit -m "Added shared comment to readme"
[master cac1be0] Added shared comment to readme
```

70. Извлекаем общие изменения

```
nikit@MSI MINGW64 ~/hello (style|REBASE 4/4)
$ cd ../cloned_hello

nikit@MSI MINGW64 ~/cloned_hello (master)
$ git remote add shared ../hello.git

nikit@MSI MINGW64 ~/cloned_hello (master)
$ git branch --track shared master
branch 'shared' set up to track 'master'.

nikit@MSI MINGW64 ~/cloned_hello (master)
$ git pull shared master
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 346 bytes | 38.00 KiB/s, done.
From ../hello
 * branch                master      -> FETCH_HEAD
 * [new branch]           master      -> shared/master
Updating 06b6315..cac1be0
Fast-forward
 README.md | 3 ++-
 1 file changed, 2 insertions(+), 1 deletion(-)

nikit@MSI MINGW64 ~/cloned_hello (master)
$ cat README.md
This is the Hello World example from the git tutorial.
(Changed in the original and pushed to shared)
nikit@MSI MINGW64 ~/cloned_hello (master)
$ cat README.mdcats cat README.md
```

Выводы

В ходе данной работы были получены навыки использования системы контроля версий git. А также работы с сервисом GitHub.