Федеральное государственное бюджетное образовательное учреждение высшего образования «Национальный исследовательский университет «МЭИ»

Институт «информационных и вычислительных технологий»

Кафедра «Управления и интеллектуальных технологий

прыва

**Отчёт по лабораторной работе № 2**

# По курсу «Разработка ПО систем управления»

# «Система контроля версий Git»

# Выполнил студент группы А-02-19:

# Каюк М.А.

# Проверили:

# Мохов А. С.

# Козлюк Д. А.

# Цель работы

1. Знать понятия и компоненты систем контроля версий (СКВ), порядок и приемы работы с ними.
2. Уметь участвовать в командной разработке, используя конкретную СКВ — Git, а также популярный хостинг репозитариев — GitHub.

**Alice**

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2

$ ls

***/\*просмотрели файлы в рабочем каталоге***

***ничего не вывелось, так как в катлоге***

***пусто\*/***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2

$ mkdir alice

***//создали каталог Алисы***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2

$ mkdir bob

***//создали каталог Боба***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2

$ cd alice

***//перешли в каталог Алисы***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice

$ mkdir project

***//создали каталог project***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice

$ cd project

***//перешли в каталог project***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project

$ cd ..

***//перешли на уровень выше***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice

$ cd project

***//перешли обратно в каталог***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project

$ git init

Initialized empty Git repository in C:/Users/Zver/Desktop/lab2/alice/project/.git/

***//инициализировали репозитарий***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ ls -A

.git/

***//Просмотрели папку, в которой git хранит данные***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git config user.name 'Alice (KitayskiyAS)'

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git config user.email 'alice@example.com'

***//настроили репозитарий***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git status

On branch master ***//на ветке мастер***

No commits yet ***//коммитов еще нет***

Untracked files:

(use "git add <file>..." to include in what will be committed) ***/\*Файлы, которые не***

***не отслеживаются\*/***

bin/

main.cpp

obj/

project.cbp

nothing added to commit but untracked files present (use "git add" to track)

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git add main.cpp

***//Добавили файл в отслеживаемые***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git status

On branch master

No commits yet

Changes to be committed:

(use "git rm --cached <file>..." to unstage)

new file: main.cpp ***/\*Файл main.cpp добавлен в***

***отслеживаемые\*/***

Untracked files:

(use "git add <file>..." to include in what will be committed) ***/\*Остальные файлы***

***по-прежнему не***

***отслеживаются\*/***

bin/

obj/

project.cbp

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git commit -m 'code: заготовка программы'

[master (root-commit) 5eccbb7] code: заготовка программы

1 file changed, 9 insertions(+)

create mode 100644 main.cpp

***//сделали коммит с файлом main.cpp***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git add project.cbp

warning: LF will be replaced by CRLF in project.cbp.

The file will have its original line endings in your working directory

***//добавили файл project.cbp в индекс***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git commit -m 'build: добавлен файл проекта'

[master aca0294] build: добавлен файл проекта

1 file changed, 42 insertions(+)

create mode 100644 project.cbp

***//сделали коммит с файлом project.cbp***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git status

On branch master

Untracked files:

(use "git add <file>..." to include in what will be committed)

bin/

obj/

nothing added to commit but untracked files present (use "git add" to track)

***//файла project.cbp больше нет в неотслеживаемых***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (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: main.cpp

***//В отличие от предыдущих действий с файлом main.cpp, он был изменен, но эти изменения не зафиксированы***

Untracked files:

(use "git add <file>..." to include in what will be committed)

bin/

obj/

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

***1 способ:***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git add main.cpp

***//выбрали файлы, изменения которых должны войти в коммит***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git commit -m "code: input a b'

> "

[master 6a10db5] code: input a b'

1 file changed, 3 insertions(+), 1 deletion(-)

//создали коммит с вводом а и б

***2 способ:***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git add -u

***//добавили в индекс изменения***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git commit -m "code: a+b"

[master 93a8fa4] code: a+b

1 file changed, 1 insertion(+)

***//сделали коммит с суммов а и б***

***3 способ:***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git commit -a -m "code: a-b"

[master a505745] code: a-b

1 file changed, 2 insertions(+), 1 deletion(-)

***//добавили в индекс все изменения и сделали коммит с разностью а и б в один шаг***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git status

On branch master

Untracked files:

(use "git add <file>..." to include in what will be committed)

.gitignore

obj/

nothing added to commit but untracked files present (use "git add" to track)

***//файл bin больше не отображается, так как был занесен в список игнорируемых***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git status

On branch master

Untracked files:

(use "git add <file>..." to include in what will be committed)

.gitignore

nothing added to commit but untracked files present (use "git add" to track)

***//добавили в игнорируемые файл obj***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git add .gitignore

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git commit -m "code: git"

[master f9920cc] code: git

1 file changed, 2 insertions(+)

create mode 100644 .gitignore

***//сделали коммит с файлом .gitignore***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git status

On branch master

nothing to commit, working tree clean

***//рабочее дерево чистое***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git log

commit f9920cc52668625300bc6958abdf16f814436c1c (HEAD -> master)

Author: Alice (KayukMA) alice@example.com

Date: Thu Mar 26 20:33:46 2020 +0300

code: git

commit a505745ae31538ff6b315c13db071db416c0224b

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:25:09 2020 +0300

code: a-b

commit 93a8fa4a4dbb188e70cbc0d3cc6b3cf7d8242a10

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:19:48 2020 +0300

code: a+b

commit 6a10db51371b9c7cf291be9651ba84b351dc2e90

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:15:28 2020 +0300

code: input a b'

//просмотрели журнал репозитария

Zver@ZVERZVE-5MLEF1B MINGW64 ~/Desktop/lab2/alice/project (master)

$ git log --stat

commit f9920cc52668625300bc6958abdf16f814436c1c (HEAD -> master) ***//хэш коммита***

Author: Alice (KayukMA) alice@example.com ***//автор коммита***

Date: Thu Mar 26 20:33:46 2020 +0300 ***/\*дата и время***

***создания коммита\*/***

code: git

.gitignore | 2 ++

1 file changed, 2 insertions(+)

commit a505745ae31538ff6b315c13db071db416c0224b

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:25:09 2020 +0300

code: a-b

main.cpp | 3 ++-

1 file changed, 2 insertions(+), 1 deletion(-)

commit 93a8fa4a4dbb188e70cbc0d3cc6b3cf7d8242a10

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:19:48 2020 +0300

code: a+b

***//просмотрели файлы, измененные в коммитах***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git log --oneline --decorate

f9920cc (HEAD -> master) code: git

a505745 code: a-b

93a8fa4 code: a+b

6a10db5 code: input a b'

aca0294 build: добавлен файл проекта

5eccbb7 code: заготовка программы

***//просмотрели коммиты в компактном виде***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git log --oneline --decorate --all --graph

\* f9920cc (HEAD -> master) code: git

\* a505745 code: a-b

\* 93a8fa4 code: a+b

\* 6a10db5 code: input a b'

\* aca0294 build: добавлен файл проекта

\* 5eccbb7 code: заготовка программы

***//просмотрели ветки в компактном виде***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git log -- main.cpp

commit a505745ae31538ff6b315c13db071db416c0224b

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:25:09 2020 +0300

code: a-b

commit 93a8fa4a4dbb188e70cbc0d3cc6b3cf7d8242a10

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:19:48 2020 +0300

code: a+b

commit 6a10db51371b9c7cf291be9651ba84b351dc2e90

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:15:28 2020 +0300

code: input a b'

commit 5eccbb79aa077eab7231a26e549e1824db056085

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 19:58:29 2020 +0300

code: заготовка программы

***//просмотрели коммиты, затрагивающие main.cpp***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git log --grep "code:"

commit f9920cc52668625300bc6958abdf16f814436c1c (HEAD -> master)

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:33:46 2020 +0300

code: git

commit a505745ae31538ff6b315c13db071db416c0224b

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:25:09 2020 +0300

code: a-b

commit 93a8fa4a4dbb188e70cbc0d3cc6b3cf7d8242a10

Author: Alice (KayukMA <alice@example.com>

Date: Thu Mar 26 20:19:48 2020 +0300

code: a+b

commit 6a10db51371b9c7cf291be9651ba84b351dc2e90

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:15:28 2020 +0300

code: input a b'

***//просмотрели коммиты с темой “code:”***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git log --grep "build:"

commit aca029436babe49ee4ed8b466593ef738c944464

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 19:59:41 2020 +0300

build: добавлен файл проекта

***//просмотрели коммит с темой build***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git log -- project.cbp

commit aca029436babe49ee4ed8b466593ef738c944464

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 19:59:41 2020 +0300

build: добавлен файл проекта

***//просмотрели коммит, затрагивающий project.cbp***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git show HEAD

commit f9920cc52668625300bc6958abdf16f814436c1c (HEAD -> master)

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:33:46 2020 +0300

code: git

**diff --git a/.gitignore b/.gitignore**

**new file mode 100644**

**index 0000000..4c7473d**

**--- /dev/null**

**+++ b/.gitignore**

@@ -0,0 +1,2 @@

+/bin

+/obj

***//просмотрели текущий коммит***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git show master

commit f9920cc52668625300bc6958abdf16f814436c1c (HEAD -> master)

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:33:46 2020 +0300

code: git

**diff --git a/.gitignore b/.gitignore**

**new file mode 100644**

**index 0000000..4c7473d**

**--- /dev/null**

**+++ b/.gitignore**

@@ -0,0 +1,2 @@

+/bin

+/obj

***//просмотрели последний коммит по имени ветви***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git show f9920cc

commit f9920cc52668625300bc6958abdf16f814436c1c (HEAD -> master)

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:33:46 2020 +0300

code: git

**diff --git a/.gitignore b/.gitignore**

**new file mode 100644**

**index 0000000..4c7473d**

**--- /dev/null**

**+++ b/.gitignore**

@@ -0,0 +1,2 @@

+/bin

+/obj

***//просмотрели последний коммит по хэшу***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git show HEAD~1

commit a505745ae31538ff6b315c13db071db416c0224b

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:25:09 2020 +0300

code: a-b

**diff --git a/main.cpp b/main.cpp**

**index 6de6dd2..5371b30 100644**

**--- a/main.cpp**

**+++ b/main.cpp**

@@ -7,6 +7,7 @@ int main()

cout << "Enter A and B: ";

int a, b;

cin >> a >> b;

- cout << "A + B = " << a + b << '\n';

+ cout << "A + B = " << a + b << '\n'

+ << "A - B = " << a - b << '\n';

return 0;

}

***//просмотрели предыдущий коммит***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git show a505745

commit a505745ae31538ff6b315c13db071db416c0224b

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:25:09 2020 +0300

code: a-b

**diff --git a/main.cpp b/main.cpp**

**index 6de6dd2..5371b30 100644**

**--- a/main.cpp**

**+++ b/main.cpp**

@@ -7,6 +7,7 @@ int main()

cout << "Enter A and B: ";

int a, b;

cin >> a >> b;

- cout << "A + B = " << a + b << '\n';

+ cout << "A + B = " << a + b << '\n'

+ << "A - B = " << a - b << '\n';

return 0;

}

***//просмотрели предыдущий коммит по хэшу***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git diff

**diff --git a/main.cpp b/main.cpp**

**index 5371b30..fbd9488 100644**

**--- a/main.cpp**

**+++ b/main.cpp**

@@ -8,6 +8,7 @@ int main()

int a, b;

cin >> a >> b;

cout << "A + B = " << a + b << '\n'

- << "A - B = " << a - b << '\n'; ***/\*сбился порядок действий, но все было***

+ << "A - B = " << a - b << '\n' ***исправлено\*/***

+ << "A \* B = " << a \* b << '\n'; ***//добавилось печать произведения***

return 0;

}

***//просмотрели изменения в рабочей копии***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git diff HEAD~2

**diff --git a/.gitignore b/.gitignore**

**new file mode 100644**

**index 0000000..4c7473d**

**--- /dev/null**

**+++ b/.gitignore**

@@ -0,0 +1,2 @@

+/bin

+/obj

**diff --git a/main.cpp b/main.cpp**

**index 6de6dd2..fbd9488 100644**

**--- a/main.cpp**

**+++ b/main.cpp**

@@ -7,6 +7,8 @@ int main()

cout << "Enter A and B: ";

int a, b;

cin >> a >> b;

- cout << "A + B = " << a + b << '\n';

+ cout << "A + B = " << a + b << '\n'

+ << "A - B = " << a - b << '\n'

+ << "A \* B = " << a \* b << '\n';

return 0;

}

***//просмотрели изменения от указанного коммита до последнего***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git diff HEAD~2 HEAD

**diff --git a/.gitignore b/.gitignore**

**new file mode 100644**

**index 0000000..4c7473d**

**--- /dev/null**

**+++ b/.gitignore**

@@ -0,0 +1,2 @@

+/bin

+/obj

**diff --git a/main.cpp b/main.cpp**

**index 6de6dd2..5371b30 100644**

**--- a/main.cpp**

**+++ b/main.cpp**

@@ -7,6 +7,7 @@ int main()

cout << "Enter A and B: ";

int a, b;

cin >> a >> b;

- cout << "A + B = " << a + b << '\n';

+ cout << "A + B = " << a + b << '\n'

+ << "A - B = " << a - b << '\n';

return 0;

}

***//просмотрели разницу между двумя указанными коммитами***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git diff HEAD~1 HEAD~5

**diff --git a/main.cpp b/main.cpp**

**index 5371b30..b4392ec 100644**

**--- a/main.cpp**

**+++ b/main.cpp**

@@ -4,10 +4,6 @@ using namespace std;

int main()

{

- cout << "Enter A and B: ";

- int a, b;

- cin >> a >> b;

- cout << "A + B = " << a + b << '\n'

- << "A - B = " << a - b << '\n';

+ cout << "Hello world!" << endl;

return 0;

}

**diff --git a/project.cbp b/project.cbp**

**deleted file mode 100644**

**index ad8f6e9..0000000**

**--- a/project.cbp**

**+++ /dev/null**

@@ -1,42 +0,0 @@

-<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>

***/\*просмотрели изменения между самым первым коммитом и коммитом , добавляющим вывод разности\*/***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git add main.cpp

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git commit -m "code: a\*b"

[master 197f1cf] code: a\*b

1 file changed, 2 insertions(+), 1 deletion(-)

***//сделали коммит с произведением а и б***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git reset --hard HEAD~1

HEAD is now at f9920cc code: git

***//откатили последний коммит***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git checkout HEAD -- main.cpp

***//откатили файл с изменениями к состоянию в последнем коммите***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git remote add origin https://github.com/ KayukMA /cs-lab2.git

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git push -u origin master

Logon failed, use ctrl+c to cancel basic credential prompt.

remote: Invalid username or password.

fatal: Authentication failed for 'https://github.com/ KayukMA /cs-lab2.git/'

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git remote add origin https://github.com/ KayukMA /cs-lab2.git

fatal: remote origin already exists.

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git push -u origin master

Enumerating objects: 18, done.

Counting objects: 100% (18/18), done.

Delta compression using up to 6 threads

Compressing objects: 100% (16/16), done.

Writing objects: 100% (18/18), 2.21 KiB | 756.00 KiB/s, done.

Total 18 (delta 2), reused 0 (delta 0), pack-reused 0

remote: Resolving deltas: 100% (2/2), done.

To https://github.com/ KayukMA/cs-lab2.git

\* [new branch] master -> master

Branch 'master' set up to track remote branch 'master' from 'origin'.

***//Отправили проект на GitHub***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git remote -v

origin https://github.com/ KayukMA/cs-lab2.git (fetch)

origin https://github.com/ KayukMA/cs-lab2.git (push)

***//отобразили адрес***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git fetch

***//убедились, что изменений не произошло***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git log --all --oneline --decorate --graph

\* 864816b (origin/master) code: a\*b

\* f9920cc (HEAD -> master) code: git

\* a505745 code: a-b

\* 93a8fa4 code: a+b

\* 6a10db5 code: input a b'

\* aca0294 build: добавлен файл проекта

\* 5eccbb7 code: заготовка программы

***//увидели, что ветка master отстает на один коммит от ветки origin***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git pull --ff-only

error: Your local changes to the following files would be overwritten by merge:

main.cpp

Please commit your changes or stash them before you merge.

Aborting

Updating f9920cc..864816b

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git add main.cpp

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git commit -m "code: a/b"

[master 09f033a] code: a/b

1 file changed, 3 insertions(+), 1 deletion(-)

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git log

commit 09f033add4da58ebb571a154396b450f5cbcc6e7 (HEAD -> master)

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 23:19:38 2020 +0300

code: a/b

commit f9920cc52668625300bc6958abdf16f814436c1c

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:33:46 2020 +0300

code: git

commit a505745ae31538ff6b315c13db071db416c0224b

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:25:09 2020 +0300

code: a-b

commit 93a8fa4a4dbb188e70cbc0d3cc6b3cf7d8242a10

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:19:48 2020 +0300

code: a+b

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git push

To https://github.com/ KayukMA /cs-lab2.git

! [rejected] master -> master (non-fast-forward)

error: failed to push some refs to 'https://github.com/KayukMA/cs-lab2.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.

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git log --all --oneline --decorate --graph

\* 09f033a (HEAD -> master) code: a/b

| \* 864816b (origin/master) code: a\*b

|/

\* f9920cc code: git

\* a505745 code: a-b

\* 93a8fa4 code: a+b

\* 6a10db5 code: input a b'

\* aca0294 build: добавлен файл проекта

\* 5eccbb7 code: заготовка программы

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git push

To https://github.com/KayukMA/cs-lab2.git

! [rejected] master -> master (non-fast-forward)

error: failed to push some refs to 'https://github.com/KayukMA/cs-lab2.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.

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git fetch

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git log --all --oneline --decorate --graph

\* 09f033a (HEAD -> master) code: a/b

| \* 864816b (origin/master) code: a\*b

|/

\* f9920cc code: git

\* a505745 code: a-b

\* 93a8fa4 code: a+b

\* 6a10db5 code: input a b'

\* aca0294 build: добавлен файл проекта

\* 5eccbb7 code: заготовка программы

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git push

To https://github.com/KayukMA/cs-lab2.git

! [rejected] master -> master (non-fast-forward)

error: failed to push some refs to 'https://github.com/KayukMA/cs-lab2.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.

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git fetch

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git reset -- hard HEAD~1

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master)

$ git pull

Auto-merging main.cpp

CONFLICT (content): Merge conflict in main.cpp

Automatic merge failed; fix conflicts and then commit the result.

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master|MERGING)

$ git push

To https://github.com/KayukMA/cs-lab2.git

! [rejected] master -> master (non-fast-forward)

error: failed to push some refs to 'https://github.com/ KayukMA /cs-lab2.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.

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/alice/project (master|MERGING)

$ git log --all --oneline --decorate --graph

\* 09f033a (HEAD -> master) code: a/b

| \* 864816b (origin/master) code: a\*b

|/

\* f9920cc code: git

\* a505745 code: a-b

\* 93a8fa4 code: a+b

\* 6a10db5 code: input a b'

\* aca0294 build: добавлен файл проекта

\* 5eccbb7 code: заготовка программы

Zver@ZVERZVE-5MLEF1B MINGW64 ~/Desktop/lab2/alice/project (master|MERGING)

$

**Bob**

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/bob

$ git clone https://github.com/ KayukMA /cs-lab2.git project

Cloning into 'project'...

remote: Enumerating objects: 18, done.

remote: Counting objects: 100% (18/18), done.

remote: Compressing objects: 100% (14/14), done.

remote: Total 18 (delta 2), reused 18 (delta 2), pack-reused 0

Receiving objects: 100% (18/18), done.

Resolving deltas: 100% (2/2), done.

***//клонировали проект***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/bob

$ cd project

***//перешли в каталог project***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/bob/project (master)

$ git init

Reinitialized existing Git repository in C:/Users/Zver/Desktop/lab2/bob/project/.git/

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/bob/project (master)

$ git config user.name 'Bob (KayukMA)'

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/bob/project (master)

$ git config user.email 'bob@example.com'

[***//настоили***](file:///\\настоили) ***репозитарий Боба***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/bob/project (master)

$ git add main.cpp

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/bob/project (master)

$ git commit -m "code: a\*b"

On branch master

Your branch is up to date with 'origin/master'.

nothing to commit, working tree clean

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/bob/project (master)

$ git add main.cpp

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/bob/project (master)

$ git commit -m "code: a\*b"

[master 864816b] code: a\*b

1 file changed, 2 insertions(+), 1 deletion(-)

***//сделали коммит с произведением а и б***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/bob/project (master)

$ git log

commit 864816b0b5f3d4f6de948dbb28027df7c6e1e4ea (HEAD -> master)

Author: Bob (KayukMA) <bob@example.com>

Date: Thu Mar 26 22:39:35 2020 +0300

code: a\*b

commit f9920cc52668625300bc6958abdf16f814436c1c (origin/master, origin/HEAD)

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:33:46 2020 +0300

code: git

commit a505745ae31538ff6b315c13db071db416c0224b

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:25:09 2020 +0300

code: a-b

commit 93a8fa4a4dbb188e70cbc0d3cc6b3cf7d8242a10

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:19:48 2020 +0300

code: a+b

***//убедились, что коммит сделан от имени Боба***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/bob/project (master)

$ git push

Enumerating objects: 5, done.

Counting objects: 100% (5/5), done.

Delta compression using up to 6 threads

Compressing objects: 100% (3/3), done.

Writing objects: 100% (3/3), 370 bytes | 370.00 KiB/s, done.

Total 3 (delta 1), reused 0 (delta 0), pack-reused 0

remote: Resolving deltas: 100% (1/1), completed with 1 local object.

To https://github.com/ KayukMA /cs-lab2.git

f9920cc..864816b master -> master

***//отправили коммит на GitHub***

dell@DESKTOP-07DC9BK MINGW64 ~/Desktop/lab2/bob/project (master)

$ git log

commit 864816b0b5f3d4f6de948dbb28027df7c6e1e4ea (HEAD -> master, origin/master, origin/HEAD)

Author: Bob (KayukMA) <bob@example.com>

Date: Thu Mar 26 22:39:35 2020 +0300

code: a\*b

commit f9920cc52668625300bc6958abdf16f814436c1c

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:33:46 2020 +0300

code: git

commit a505745ae31538ff6b315c13db071db416c0224b

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:25:09 2020 +0300

code: a-b

commit 93a8fa4a4dbb188e70cbc0d3cc6b3cf7d8242a10

Author: Alice (KayukMA) <alice@example.com>

Date: Thu Mar 26 20:19:48 2020 +0300