

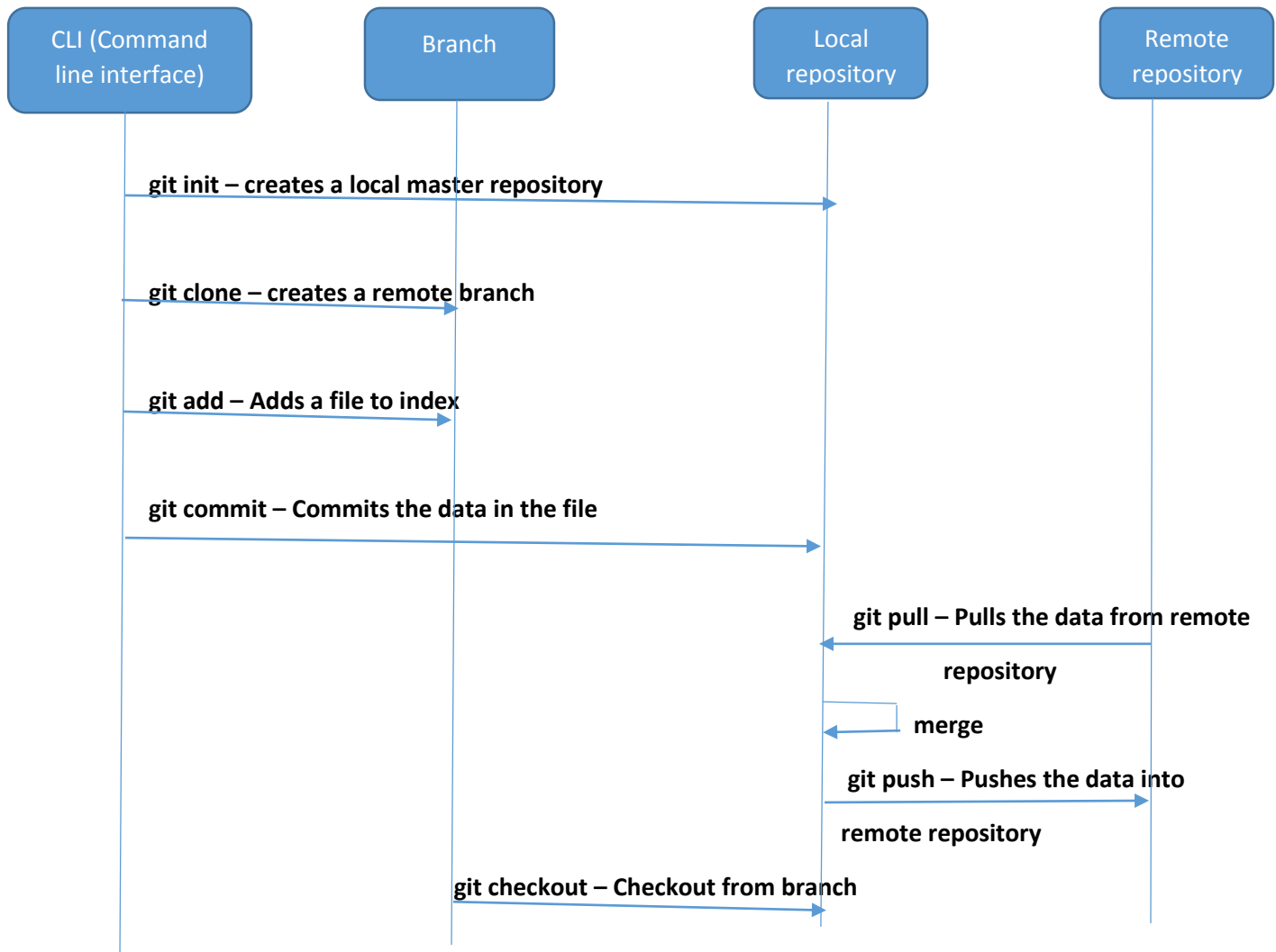
LEMA KANDULA

SOFTWARE METHODS AND TOOLS

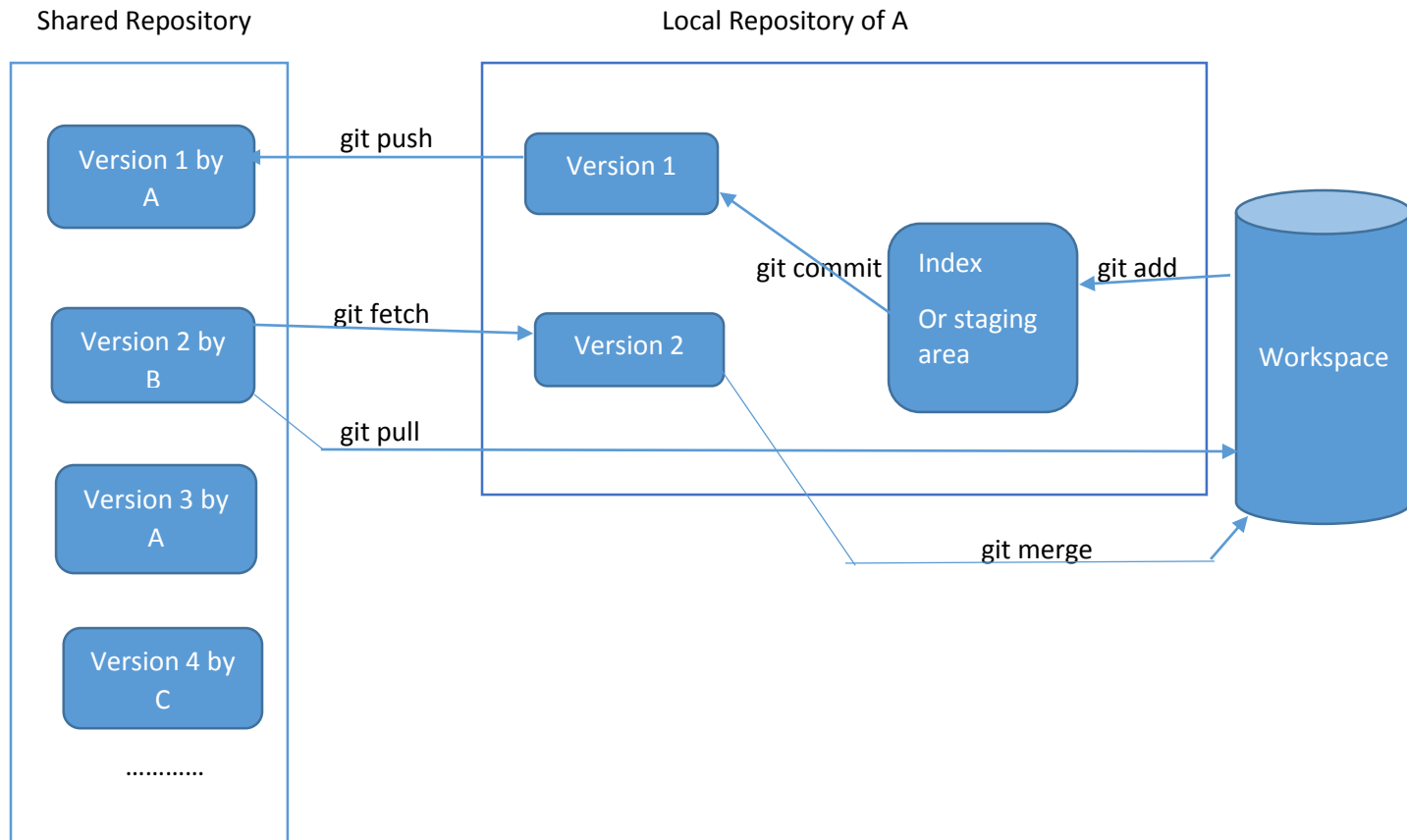
ASSIGNMENT #9

GIT

## WORKFLOW OF GIT



## WORKING MECHANISM OF GIT



**Git push:** This command pushes the data from local repository to Shared repository in server.

**Git add:** This command adds the file from workspace to Index/Staging area in the local repository.

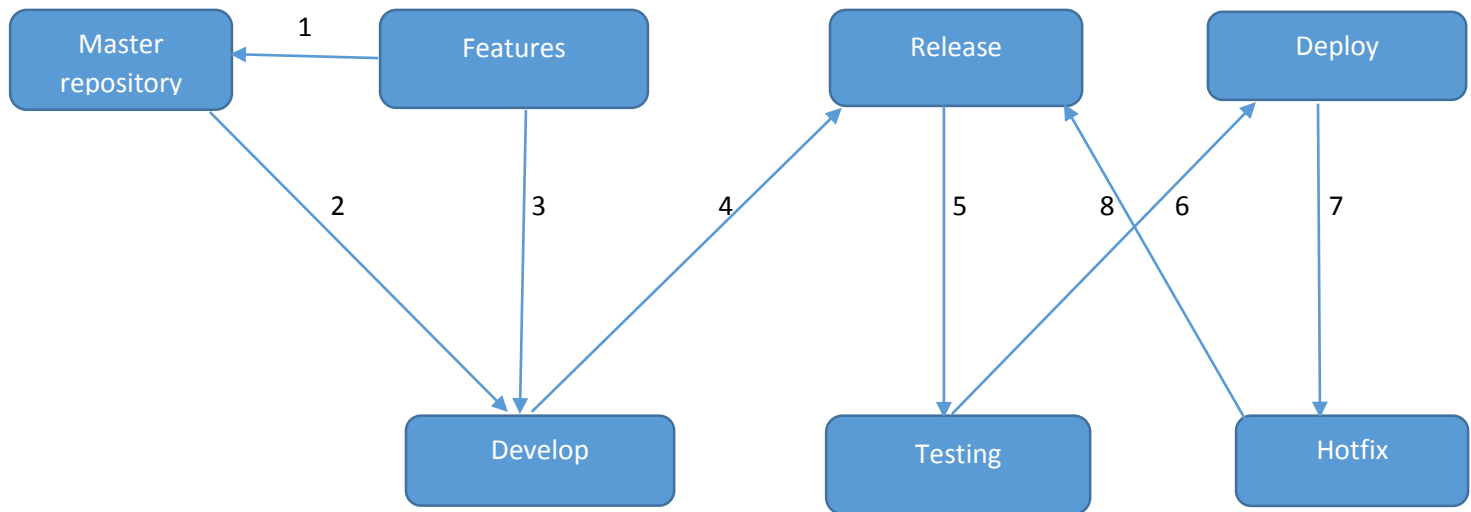
**Git commit:** This command commits the data in the Index to a commit version 1.

**Git fetch:** This command fetches the data from shared repository to local repository.

**Git merge:** This command merges the data from local repository to current workspace.

**Git pull:** This command pulls the data from Shared repository to workspace directly. This command is a combination of Git fetch and Git merge.

**Diagram to illustrate the working process of software project life cycle:**



**Steps of illustration:**

1. The Features assumed for project are in features branch. These are pushed into Master repository.
2. The Features in the master repository are pulled directly into develop branch.
3. All features are merged into develop branch and if a new feature is been updated by any team member, a pull is done to develop branch.
4. The developed features are now moved to a new release branch.
5. The release is tested with test cases and a tested release is obtained.
6. The tested release is deployed into deploy branch.
7. If the customer faces any bugs/issues, maintenance can be done and a hotfix is prepared.
8. The hotfix is induced into release branch. This is been tested and deployed again to the customer.

### **Step wise execution:**

1. Commands to execute, to create a remote repository and pushing the data:

```
git config --global user.name "Lema Kandula"
```

```
git config --global user.email "lkz6d@mail.umkc.edu"
```

```
git config --global core.editor notepad++
```

```
cd C:/
```

```
mkdir myTetrisGame.git
```

```
cd myTetrisGame.git
```

```
git init --bare
```

```
ls -ltr
```

```
cd ..
```

```
mkdir Tetris
```

```
cd Tetris
```

```
git init
```

```
//copy and paste the Tetris code into this folder
```

```
git add *
```

```
git commit -m "Initial Code Import"
```

```
git remote add origin C:/ myTetrisGame.git
```

```
git push origin master
```

```
MINGW32:/c/tetris
Welcome to Git (version 1.9.5-preview20150319)

Run 'git help git' to display the help index.
Run 'git help <command>' to display help for specific commands.

Lema Chowdary@LEMACHOWDARY ~
$ git config --global user.name "Lema Kandula"

Lema Chowdary@LEMACHOWDARY ~
$ git config --global user.email "lkz6d@mail.umkc.edu"

Lema Chowdary@LEMACHOWDARY ~
$ git config --global core.editor notepad++

Lema Chowdary@LEMACHOWDARY ~
$ cd C:/

Lema Chowdary@LEMACHOWDARY /c
$ mkdir myTetrisGame.git

Lema Chowdary@LEMACHOWDARY /c
$ cd myTetrisGame.git

Lema Chowdary@LEMACHOWDARY /c/myTetrisGame.git
$ git init --bare
Initialized empty Git repository in c:/myTetrisGame.git/

Lema Chowdary@LEMACHOWDARY /c/myTetrisGame.git (BARE:master)
$ ls -ltr
total 4
drwxr-xr-x  1 Lema Cho Administ  0 May 11 14:51 refs
drwxr-xr-x  1 Lema Cho Administ  0 May 11 14:51 objects
drwxr-xr-x  1 Lema Cho Administ  0 May 11 14:51 info
drwxr-xr-x  1 Lema Cho Administ 4096 May 11 14:51 hooks
-rw-r--r--  1 Lema Cho Administ  73 May 11 14:51 description
-rw-r--r--  1 Lema Cho Administ 131 May 11 14:51 config
-rw-r--r--  1 Lema Cho Administ  23 May 11 14:51 HEAD

Lema Chowdary@LEMACHOWDARY /c/myTetrisGame.git (BARE:master)
$ cd ..

Lema Chowdary@LEMACHOWDARY /c
$ mkdir tetris

Lema Chowdary@LEMACHOWDARY /c
$ cd tetris
```

```
MINGW32:/c/tetris
Lema Chowdary@LEMACHOWDARY /c/tetris
$ git init
Initialized empty Git repository in c:/tetris/.git/

Lema Chowdary@LEMACHOWDARY /c/tetris (master)
$ git add *
warning: LF will be replaced by CRLF in tetrisgame/tetrisgame/META-INF/MANIFEST.MF.
The file will have its original line endings in your working directory.

Lema Chowdary@LEMACHOWDARY /c/tetris (master)
$ git commit -m "Initial Code Import"
[master (root-commit) a7c1bd4] Initial Code Import
warning: LF will be replaced by CRLF in tetrisgame/tetrisgame/META-INF/MANIFEST.MF.
The file will have its original line endings in your working directory.
42 files changed, 2771 insertions(+)
create mode 100644 tetrisgame/tetrisgame/.classpath
create mode 100644 tetrisgame/tetrisgame/.project
create mode 100644 tetrisgame/tetrisgame/.settings/org.eclipse.jdt.core.prefs
create mode 100644 tetrisgame/tetrisgame/META-INF/MANIFEST.MF
create mode 100644 tetrisgame/tetrisgame/bin/boardpanel/BoardpanelImp.class
create mode 100644 tetrisgame/tetrisgame/bin/boardpanel/BoradpanelArch.class
create mode 100644 tetrisgame/tetrisgame/bin/boardpanel/IboardpanelImp.class
create mode 100644 tetrisgame/tetrisgame/bin/clock/ClockArch.class
create mode 100644 tetrisgame/tetrisgame/bin/clock/ClockImp.class
create mode 100644 tetrisgame/tetrisgame/bin/clock/IclockImp.class
create mode 100644 tetrisgame/tetrisgame/bin/sampleclock.class
create mode 100644 tetrisgame/tetrisgame/bin/sidepanel/IsidepanelImp.class
create mode 100644 tetrisgame/tetrisgame/bin/sidepanel/SidepanelArch.class
create mode 100644 tetrisgame/tetrisgame/bin/sidepanel/SidepanelImp.class
create mode 100644 tetrisgame/tetrisgame/bin/tetris/ItetrisImp.class
create mode 100644 tetrisgame/tetrisgame/bin/tetris/TetrisArch.class
create mode 100644 tetrisgame/tetrisgame/bin/tetris/TetrisImp.class
create mode 100644 tetrisgame/tetrisgame/bin/tetrisgame/Activator.class
create mode 100644 tetrisgame/tetrisgame/bin/tetrisgame/TetrisClock1.class
create mode 100644 tetrisgame/tetrisgame/bin/tetrisgame/Tetrisboardpanel1.class

create mode 100644 tetrisgame/tetrisgame/bin/tetrisgame/Tetrissidepanel1.class
create mode 100644 tetrisgame/tetrisgame/bin/tetrisgame/TileType.class
create mode 100644 tetrisgame/tetrisgame/build.properties
create mode 100644 tetrisgame/tetrisgame/src/boardpanel/BoardpanelImp.java
create mode 100644 tetrisgame/tetrisgame/src/boardpanel/BoradpanelArch.java
create mode 100644 tetrisgame/tetrisgame/src/boardpanel/IboardpanelImp.java
create mode 100644 tetrisgame/tetrisgame/src/clock/ClockArch.java
create mode 100644 tetrisgame/tetrisgame/src/clock/ClockImp.java
create mode 100644 tetrisgame/tetrisgame/src/clock/IclockImp.java
```

## 2. Cloning the remote repository and creating a new branch for each user:

Make three local folders and clone the code using below commands

git clone file:///C:/myTetrisGame.git tetrisLema

git clone file:///C:/myTetrisGame.git tetrisMounika

git clone file:///C:/myTetrisGame.git tetrisKrishna

cd tetrisLema

git checkout -b branch-l

cd ..

cd tetrisMounika

git checkout -b branch-m

cd ..

cd tetrisKrishna

git checkout -b branch-k

cd ..

```
MINGW32:/c/tetris/tetrisKrishna
Lema Chowdary@LEMACHOWDARY /c/tetris (master)
$ git remote add origin C:/myTetrisGame.git

Lema Chowdary@LEMACHOWDARY /c/tetris (master)
$ git push origin master
Counting objects: 60, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (56/56), done.
Writing objects: 100% (60/60), 32.20 KiB | 0 bytes/s, done.
Total 60 (delta 6), reused 0 (delta 0)
To C:/myTetrisGame.git
 * [new branch]      master -> master

Lema Chowdary@LEMACHOWDARY /c/tetris (master)
$ git clone file:///C:/
Git Bash.vbs      doc/              libexec/          unins000.exe
ReleaseNotes.rtf etc/              share/
bin/              git-cheetah/     ssl/
cmd/              lib/              unins000.dat

Lema Chowdary@LEMACHOWDARY /c/tetris (master)
$ git clone file:///C:/
fatal: could not create work tree dir '': No such file or directory

Lema Chowdary@LEMACHOWDARY /c/tetris (master)
$ git clone file:///C:/myTetrisGame.git tetrisLema
Cloning into 'tetrisLema'...
remote: Counting objects: 60, done.
remote: Compressing objects: 100% (56/56), done.
remote: Total 60 (delta 6), reused 0 (delta 0)
Receiving objects: 88% (53/60)

Receiving objects: 100% (60/60), 32.20 KiB | 0 bytes/s, done.
Resolving deltas: 100% (6/6), done.
Checking connectivity... done.

Lema Chowdary@LEMACHOWDARY /c/tetris (master)
$ git clone file:///C:/myTetrisGame.git tetrisMounika
Cloning into 'tetrisMounika'...
remote: Counting objects: 60, done.
remote: Compressing objects: 100% (56/56), done.
remote: Total 60 (delta 6), reused 0 (delta 0)
Receiving objects: 100% (60/60), 32.20 KiB | 0 bytes/s, done.
Resolving deltas: 100% (6/6), done.
Checking connectivity... done.

Lema Chowdary@LEMACHOWDARY /c/tetris (master)
$ git clone file:///C:/myTetrisGame.git tetrisKrishna
Cloning into 'tetrisKrishna'...
remote: Counting objects: 60, done.
```



```
Lema Chowdary@LEMACHOWDARY /c/tetris (master)
$ git clone file:///C:/myTetrisGame.git Projmem1
Cloning into 'Projmem1'...
remote: Counting objects: 60, done.
remote: Compressing objects: 100% (56/56), done.
rRemote: Total 60 (delta 6), reused 0 (delta 0)
Receiving objects: 96% (58/60)
Receiving objects: 98% (59/60)
Receiving objects: 100% (60/60), 32.20 KiB | 0 bytes/s, done.
Resolving deltas: 100% (6/6), done.
Checking connectivity... done.
```

```
Lema Chowdary@LEMACHOWDARY /c/tetris (master)
$ git clone file:///C:/myTetrisGame.git Projmem2
Cloning into 'Projmem2'...
remote: Counting objects: 60, done.
remote: Compressing objects: 100% (56/56), done.
remote: Total 60 (delta 6), reused 0 (delta 0)
Receiving objects: 100% (60/60), 32.20 KiB | 0 bytes/s, done.
Resolving deltas: 100% (6/6), done.
Checking connectivity... done.
```

```
Lema Chowdary@LEMACHOWDARY /c/tetris (master)
$ git clone file:///C:/myTetrisGame.git ProjLead
Cloning into 'ProjLead'...
remote: Counting objects: 60, done.
remote: Compressing objects: 100% (56/56), done.
remote: Total 60 (delta 6), reused 0 (delta 0)
Receiving objects: 100% (60/60), 32.20 KiB | 0 bytes/s, done.
Resolving deltas: 100% (6/6), done.
Checking connectivity... done.
```

```
Lema Chowdary@LEMACHOWDARY /c/tetris (master)
$ git checkout -b branch-1 origin/branch-1
fatal: Cannot update paths and switch to branch 'branch-1' at the same time.
Did you intend to checkout 'origin/branch-1' which can not be resolved as commit?
```

```
Lema Chowdary@LEMACHOWDARY /c/tetris (master)
$ cd Projmem1
```

```
Lema Chowdary@LEMACHOWDARY /c/tetris/Projmem1 (master)
$ git checkout -b branch-1 origin/branch-1
fatal: Cannot update paths and switch to branch 'branch-1' at the same time.
Did you intend to checkout 'origin/branch-1' which can not be resolved as commit?
```

3. Checking the status after a change is made in the code:

```
Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (branch-1)
$ git status
On branch branch-1
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   tetrisgame/tetrisgame/src/sampleclock.java

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

Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (branch-1)
$ git add sampleclock.java
fatal: pathspec 'sampleclock.java' did not match any files

Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (branch-1)
$ git add tetrisgame/tetrisgame/src/sampleclock.java

Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (branch-1)
$ git commit -m "Developing in progress"
[branch-1 d154cfe] Developing in progress
1 file changed, 1 insertion(+), 1 deletion(-)

Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (branch-1)
$ git push origin branch-1
Counting objects: 11, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (6/6), 468 bytes | 0 bytes/s, done.
Total 6 (delta 2), reused 0 (delta 0)
To file:///C:/myTetrisGame.git
 * [new branch]      branch-1 -> branch-1

Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (branch-1)
$ git checkout master
Switched to branch 'master'
Your branch is up-to-date with 'origin/master'.
```

- ```
Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (master)
$ git commit -m "Changing code"
On branch master
Your branch is up-to-date with 'origin/master'.

Changes not staged for commit:
  modified:   tetrisgame/tetrisgame/src/sampleclock.java

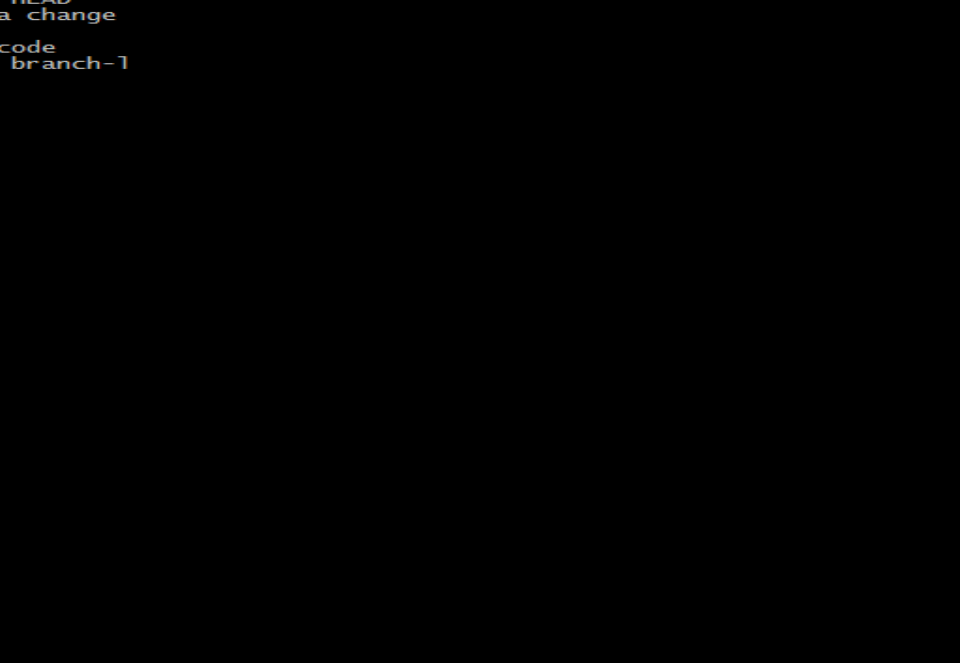
no changes added to commit

Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (master)
$ git add tetrisgame/tetrisgame/src/sampleclock.java

Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (master)
$ git commit -m "Changing code"
[master aed4ca1] Changing code
 1 file changed, 1 insertion(+), 1 deletion(-)

Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (master)
$ git merge branch-1
Auto-merging tetrisgame/tetrisgame/src/sampleclock.java
CONFLICT (content): Merge conflict in tetrisgame/tetrisgame/src/sampleclock.java

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

- 
- ```

public class sampleclock {
<----- HEAD
Making a change
=====
adding code
>>>>>> branch-1
}

< tetrisgame\tetrisgame\src\samp
-- INSERT --

```

```
Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (master|MERGING)
$ vi tetrisgame/tetrisgame/src/sampleclock.java

Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (master|MERGING)
$ git add tetrisgame/tetrisgame/src/sampleclock.java

Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (master|MERGING)
$ git commit -m "solved conflicts"
[master 30a7dc0] solved conflicts

Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (master)
$ git merge branch-1
Already up-to-date.
```

6. Creating a new branch and pushing the data:

```
Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (master)
$ git checkout -b branch-11
Switched to a new branch 'branch-11'

Lema Chowdary@LEMACHOWDARY /c/tetris/tetrisLema (branch-11)
$ git push origin branch-11
Counting objects: 22, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (6/6), done.
Writing objects: 100% (12/12), 903 bytes | 0 bytes/s, done.
Total 12 (delta 4), reused 0 (delta 0)
To file:///C:/myTetrisGame.git
 * [new branch]      branch-11 -> branch-11
```