

SE-441 Continuous Delivery and DevOps

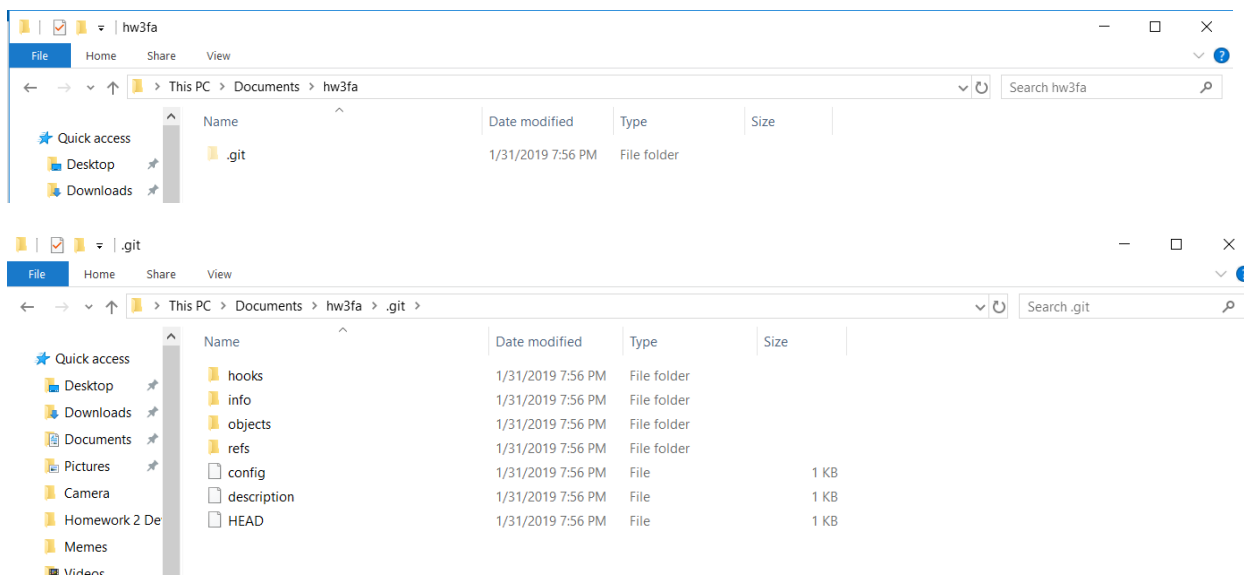
Winter 2018-2019

Homework 3

Fernando Araujo

4. [25 points] Using the repository from the previous step, please perform the following tasks:

(a) [1 point] On your local machine, create a new directory called hw3 (e.g. hw3cj). Change into the directory and initialize it as a Git repository. Provide a readable screenshot of the contents of the new directory.



(b) [2 points] Create a new file called README.md and add some markdown text to it. Add that file to your staging area, and commit your changes to your local repository. Make several other commits to the README.md. Capture the output of the git log.

```
MINGW64/c:/Users/fca_m/Documents/hw3fa
[master d44def6] Third Commit
1 file changed, 2 insertions(+), 1 deletion(-)

fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)
$ git log
commit d44def68cbd3d8b03262d02d529a715b475cbfc2 (HEAD -> master)
Author: FCAMEX <fca_mex@yahoo.com>
Date: Thu Jan 31 21:48:17 2019 +0900

    Third Commit

commit 0a16e383ce97f1c370b119bdbc44cf1575e7e72
Author: FCAMEX <fca_mex@yahoo.com>
Date: Thu Jan 31 21:47:48 2019 +0900

    Second Commit

commit b9f7a67a12dedd0d10ce0472aedd5a08d10719bc
Author: FCAMEX <fca_mex@yahoo.com>
Date: Thu Jan 31 21:46:14 2019 +0900

    First Commit

fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)
$
```

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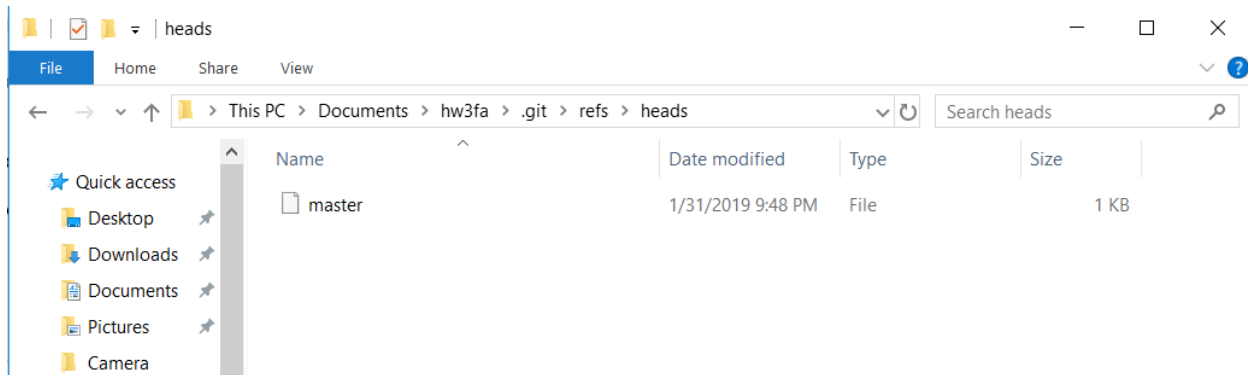
(c) [2 points] Push your local repository to Github: git remote add origin

<https://github.com/depaulcdm/hw3-FCAMEX>

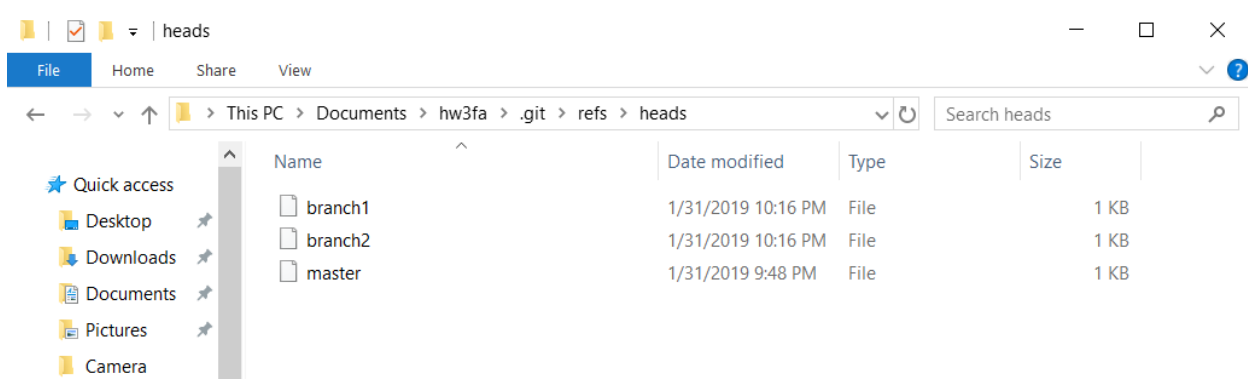
git push --set-upstream origin master

DONE

(d) [1 point] List the contents of the .git/refs/heads directory and capture a readable screenshot.

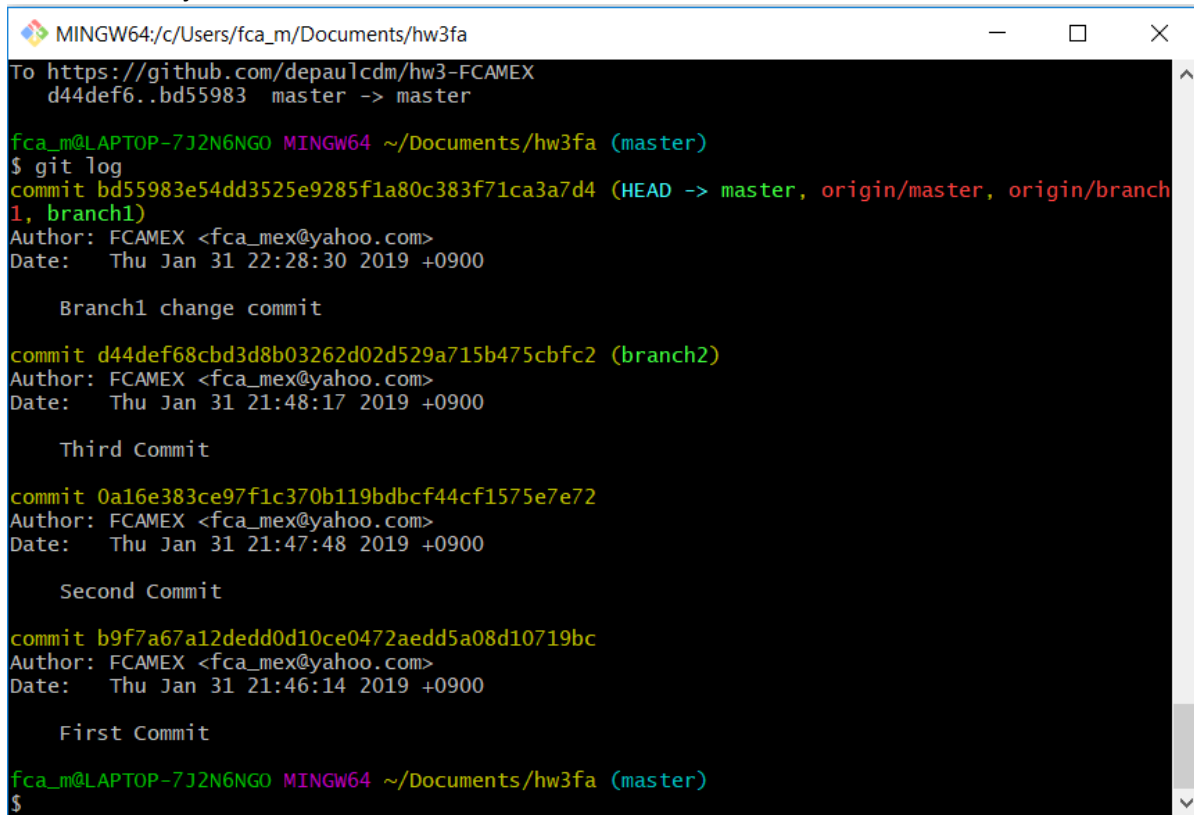


(e) [2 points] Create two branches off of the master branch. List the contents of the .git/refs/heads directory and capture a readable screenshot.



(f) [2 points] Change to the first branch and update and commit a change to the README.md file. Merge that change to master. Review the history using git log and capture a readable screenshot of the output.

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A screenshot of a Windows command prompt window titled "MINGW64: c:/Users/fca_m/Documents/hw3fa". The window shows the output of the "git log" command. The output lists several commits in reverse chronological order, starting with "commit bd55983e54dd3525e9285f1a80c383f71ca3a7d4 (HEAD -> master, origin/master, origin/branch1, branch1)". The commits are attributed to "FCAMEX <fca_mex@yahoo.com>" and dated "Thu Jan 31 22:28:30 2019 +0900". The log includes labels for "Branch1 change commit", "Third Commit", "Second Commit", and "First Commit". The prompt ends with the user's shell name and the current directory: "fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)".

```
MINGW64: c:/Users/fca_m/Documents/hw3fa
To https://github.com/depaulcdm/hw3-FCAMEX
d44def6..bd55983 master -> master

fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)
$ git log
commit bd55983e54dd3525e9285f1a80c383f71ca3a7d4 (HEAD -> master, origin/master, origin/branch1, branch1)
Author: FCAMEX <fca_mex@yahoo.com>
Date: Thu Jan 31 22:28:30 2019 +0900

    Branch1 change commit

commit d44def68cbd3d8b03262d02d529a715b475cbfc2 (branch2)
Author: FCAMEX <fca_mex@yahoo.com>
Date: Thu Jan 31 21:48:17 2019 +0900

    Third Commit

commit 0a16e383ce97f1c370b119bdbcf44cf1575e7e72
Author: FCAMEX <fca_mex@yahoo.com>
Date: Thu Jan 31 21:47:48 2019 +0900

    Second Commit

commit b9f7a67a12dedd0d10ce0472aedd5a08d10719bc
Author: FCAMEX <fca_mex@yahoo.com>
Date: Thu Jan 31 21:46:14 2019 +0900

    First Commit

fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)
$
```

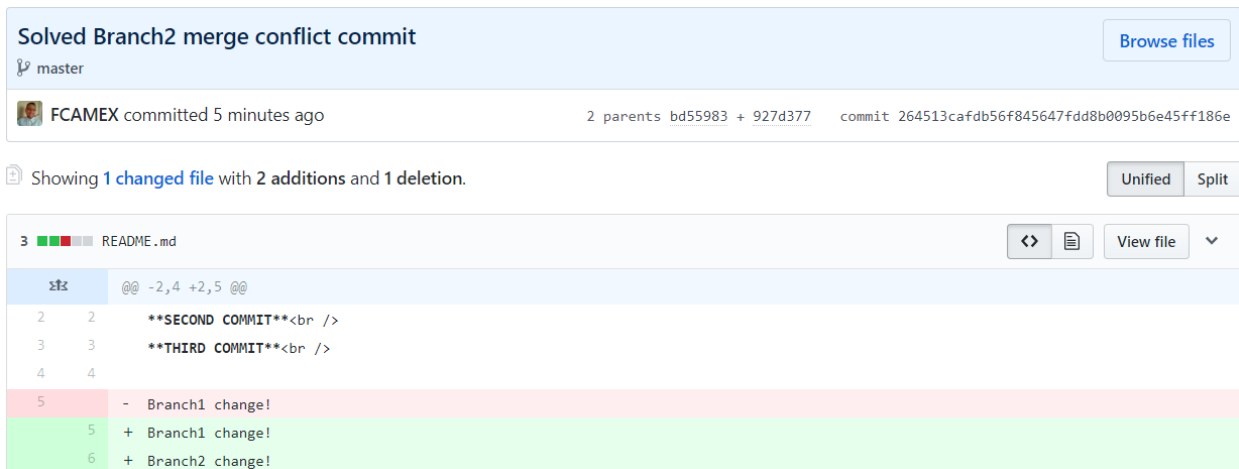
(g) [2 points] Change to the second branch and update the same line in the README.md as you did in step g. Commit your change and attempt to merge to master. Resolve any merge conflicts and complete the merge. Push your master branch to Github.

DONE

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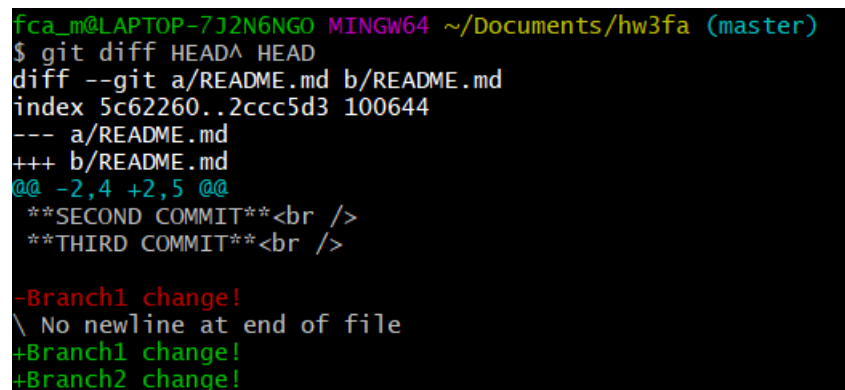
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(h) [2 points] From the Github 'Code' page, Then click the button containing the partial SHA1 hash to the right of the commit message. Capture a readable screenshot of the difference between that version of the README.md file and the prior version. Use a git diff command to produce the same thing from the command line and capture a readable screenshot of the output. Review the history using git log and capture a readable screenshot of the output.



The screenshot shows a GitHub commit page for a repository named 'Solved Branch2 merge conflict commit'. The commit is by 'FCAMEX' and was made 5 minutes ago. It has 2 parents: 'bd55983' and '927d377'. The commit hash is '264513cafdb56f845647fdd8b0095b6e45ff186e'. The diff shows changes to 'README.md'. The diff is displayed in a unified view, showing the following changes:

```
@@ -2,4 +2,5 @@
2 2      **SECOND COMMIT**<br />
3 3      **THIRD COMMIT**<br />
4 4
5 - Branch1 change!
5 + Branch1 change!
6 + Branch2 change!
```



```
fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)
$ git diff HEAD^ HEAD
diff --git a/README.md b/README.md
index 5c62260..2ccc5d3 100644
--- a/README.md
+++ b/README.md
@@ -2,4 +2,5 @@
 **SECOND COMMIT**<br />
 **THIRD COMMIT**<br />

-Branch1 change!
\ No newline at end of file
+Branch1 change!
+Branch2 change!
```

I used git diff HEAD^ HEAD to compare the current commit with the previous, I could have alternative used git diff 927d37700904f2294082293754ca2d6d343236aa HEAD to obtain the same information.

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```
fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)
$ git log
commit 264513cafdb56f845647fdd8b0095b6e45ff186e (HEAD -> master, origin/master)
Merge: bd55983 927d377
Author: FCAMEX <fca_mex@yahoo.com>
Date: Thu Jan 31 22:52:14 2019 +0900

    Solved Branch2 merge conflict commit

commit 927d37700904f2294082293754ca2d6d343236aa (origin/branch2, branch2)
Author: FCAMEX <fca_mex@yahoo.com>
Date: Thu Jan 31 22:48:23 2019 +0900

    Branch2 change commit

commit bd55983e54dd3525e9285f1a80c383f71ca3a7d4 (origin/branch1, branch1)
Author: FCAMEX <fca_mex@yahoo.com>
Date: Thu Jan 31 22:28:30 2019 +0900

    Branch1 change commit

commit d44def68cbd3d8b03262d02d529a715b475cbfc2
Author: FCAMEX <fca_mex@yahoo.com>
Date: Thu Jan 31 21:48:17 2019 +0900

    Third Commit

commit 0a16e383ce97f1c370b119bdbcf44cf1575e7e72
Author: FCAMEX <fca_mex@yahoo.com>
Date: Thu Jan 31 21:47:48 2019 +0900

    Second Commit

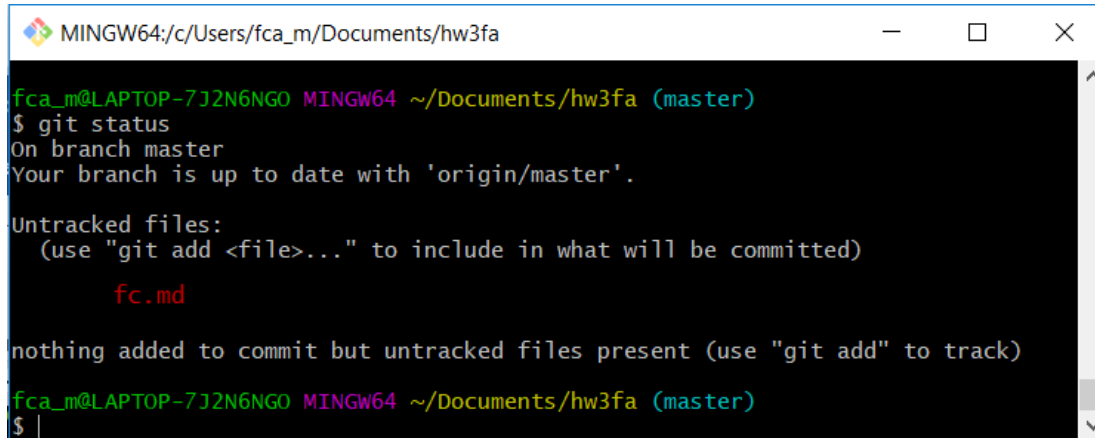
commit b9f7a67a12dedd0d10ce0472aedd5a08d10719bc
Author: FCAMEX <fca_mex@yahoo.com>
Date: Thu Jan 31 21:46:14 2019 +0900

    First Commit

fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)
$
```

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(i) [1 point] Create a new file, .md (e.g. cj.md) and add some content. Capture the output of git status.



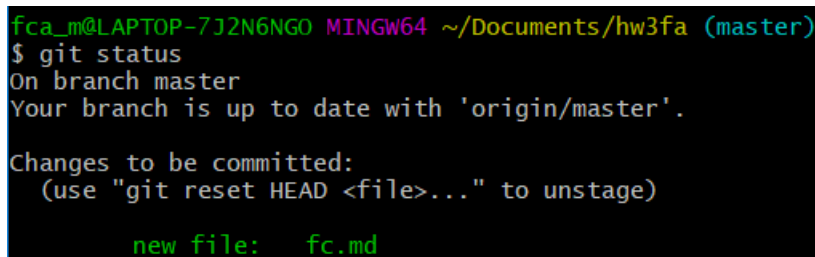
```
MINGW64:/c/Users/fca_m/Documents/hw3fa
fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)
$ git status
On branch master
Your branch is up to date with 'origin/master'.

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

        fc.md

nothing added to commit but untracked files present (use "git add" to track)
fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)
$
```

(j) [1 point] Add the new file to your local repository, but do not commit it. Capture the output of git status.



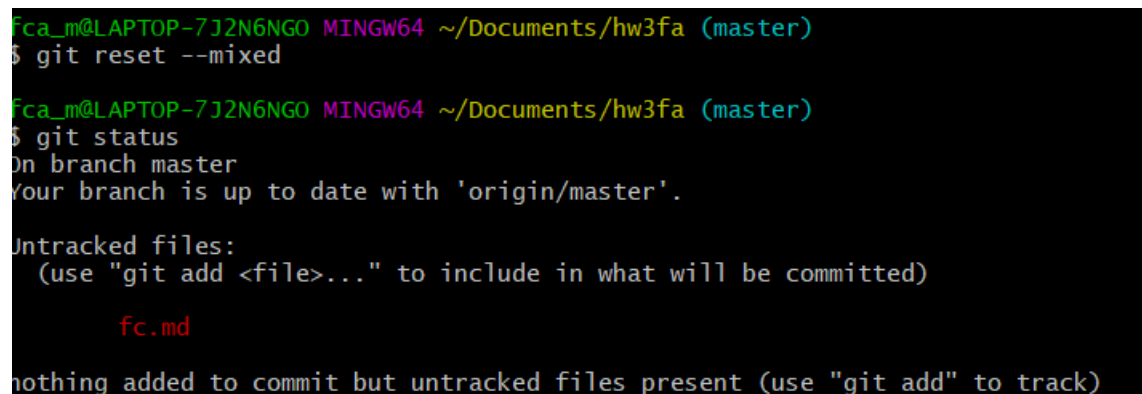
```
fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)
$ git status
On branch master
Your branch is up to date with 'origin/master'.

Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        new file:   fc.md
```

(k) [2 points] Perform a git reset --mixed. What was the result?

When the reset --mixed was performed it reset the HEAD and staging (index) back to the original status before any changes were made. This means that the file fc.md is no longer in the index, it got unstaged. When running the git status command, its status changed back to “untracked”.



```
fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)
$ git reset --mixed

fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)
$ git status
On branch master
Your branch is up to date with 'origin/master'.

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

        fc.md

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

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(l) [1 point] Make another change to the file, but do not add it to the index or commit it to your repository. Capture the output of git status.

```
fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)
$ git status
On branch master
Your branch is up to date with 'origin/master'.

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

    fc.md

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

(m) [3 points] Execute a git reset and capture the output of git status. What was the affect of the reset on your index? What was the effect of the reset on the local file?

The git reset reverted changed in both the index and the head, but since I made no changes, they stayed the same. Also, it did not have any effect on my local file. This is because a git reset is equivalent as doing a git reset --mixed since this is the default option. Since the file fc.md was not added to either the index or the head, the status remained the same as before.

```
fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)
$ git reset

fca_m@LAPTOP-7J2N6NGO MINGW64 ~/Documents/hw3fa (master)
$ git status
On branch master
Your branch is up to date with 'origin/master'.

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

    fc.md

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

(n) [3 points] Execute a hard reset: git reset --hard. What was the affect of the reset on the index? What was the effect of the reset on the local file?

When running the git reset --hard command, all of the local changes get reverted back. This means that the head, index, and the local files all get affected. Nevertheless, since my new file fc.md has never been committed/pushed to the remote repository, it is not affected at all by this reset. It still remains as an Untracked file and the changes I made to it before the reset are still present. If I had on the other hand changed README.md, all of the changes I made to the local version of this file would have been reverted.

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```
fca_m@LAPTOP-7J2N6NG0 MINGW64 ~/Documents/hw3fa (master)
$ git reset --hard HEAD
HEAD is now at 264513c Solved Branch2 merge conflict commit

fca_m@LAPTOP-7J2N6NG0 MINGW64 ~/Documents/hw3fa (master)
$ git status
On branch master
Your branch is up to date with 'origin/master'.

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

        fc.md

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