Pro Git(https://git-scm.com/book/ko/v2/)를 바탕으로 작성하였습니다.

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What we will take a look in this series

1. Getting Started
2. Git Basics
3. Git Branch
4. Git Server - GitLab

What we will take a look today

1. Getting Started
2. Git Basics
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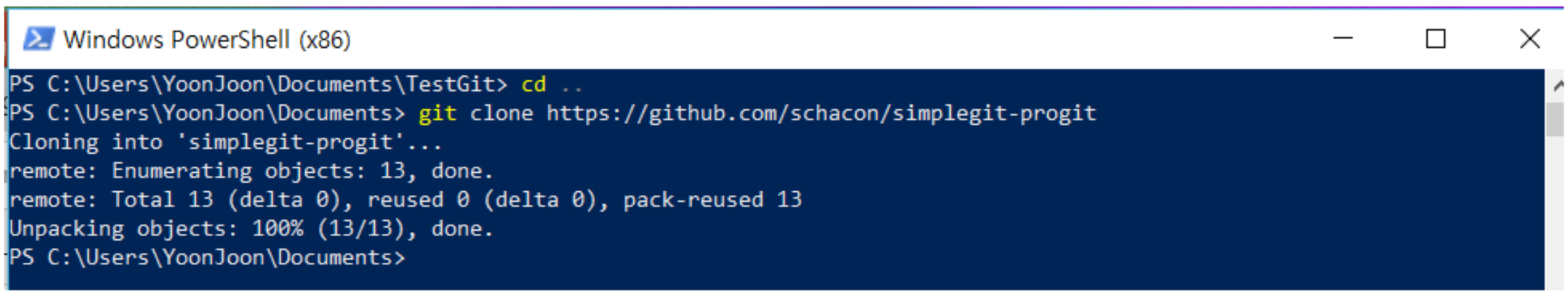
What I will talk about in this section

1. Getting a Git Repository
2. Recording Changes to the Repository
3. Viewing the Commit History
4. Undoing Things
5. Working with Remotes
6. Tagging
7. Git Aliases

Viewing the Commit History

After we have created several commits, or if we have cloned a repository with an existing commit history, we'll probably want to look back to see what has happened. The most basic and powerful tool to do this is the `git log` command.



Run `git log` in this project

Windows PowerShell (x86)

```
PS C:\Users\YoonJoon\Documents\simplegit-progit> git log
commit ca82a6dff817ec66f44342007202690a93763949 (HEAD -> master, origin/master, origin/HEAD)
Author: Scott Chacon <schacon@gmail.com>
Date:   Mon Mar 17 21:52:11 2008 -0700

    changed the verison number

commit 085bb3bcb608e1e8451d4b2432f8ecbe6306e7e7
Author: Scott Chacon <schacon@gmail.com>
Date:   Sat Mar 15 16:40:33 2008 -0700

    removed unnecessary test code

commit a11bef06a3f659402fe7563abf99ad00de2209e6
Author: Scott Chacon <schacon@gmail.com>
Date:   Sat Mar 15 10:31:28 2008 -0700

    first commit
```

With no arguments, `git log` lists the commits made in that repository in reverse chronological order. This command lists each commit with its SHA-1 checksum, the author's name and email, the date written, and the commit message.

The option **`-p`** or **`--patch`** shows the difference (the *patch* output) introduced in each commit. We can also limit the number of log entries displayed, such as using **`-2`** to show only the last two entries.

Windows PowerShell (x86)

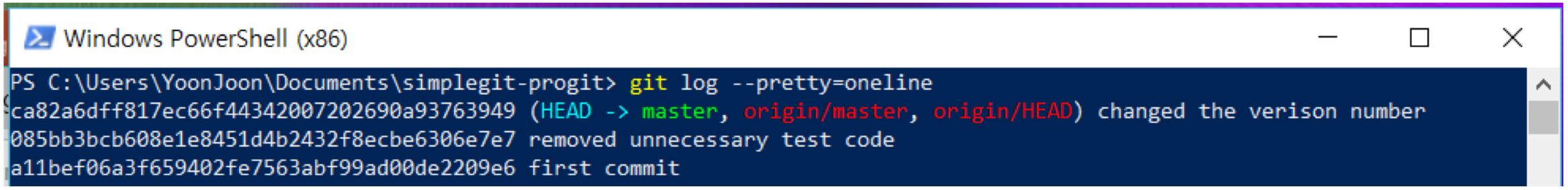
```
PS C:\Users\YoonJoon\Documents\simplegit-progit> git log -p -2
commit ca82a6dff817ec66f44342007202690a93763949 (HEAD -> master, origin/master, origin/HEAD)
Author: Scott Chacon <schacon@gmail.com>
Date:   Mon Mar 17 21:52:11 2008 -0700

    changed the verison number

diff --git a/Rakefile b/Rakefile
index a874b73..8f94139 100644
--- a/Rakefile
+++ b/Rakefile
@@ -5,7 +5,7 @@ require 'rake/gempackagetask'
 spec = Gem::Specification.new do |s|
     s.platform  =   Gem::Platform::RUBY
     s.name      =   "simplegit"
-    s.version   =   "0.1.0"
+    s.version   =   "0.1.1"
     s.author    =   "Scott Chacon"
     s.email     =   "schacon@gmail.com"
     s.summary   =   "A simple gem for using Git in Ruby code."

commit 085bb3bcb608e1e8451d4b2432f8ecbe6306e7e7
Author: Scott Chacon <schacon@gmail.com>
Date:   Sat Mar 15 16:40:33 2008 -0700

    removed unnecessary test code

diff --git a/lib/simplegit.rb b/lib/simplegit.rb
index a0a60ae..47c6340 100644
--- a/lib/simplegit.rb
+++ b/lib/simplegit.rb
@@ -18,8 +18,3 @@ class SimpleGit
     end

 end
-
-if $0 == __FILE__
-  git = SimpleGit.new
-  puts git.show
-end
\ No newline at end of file
```

To see some abbreviated stats for each commit, we can use the `--stat` option:

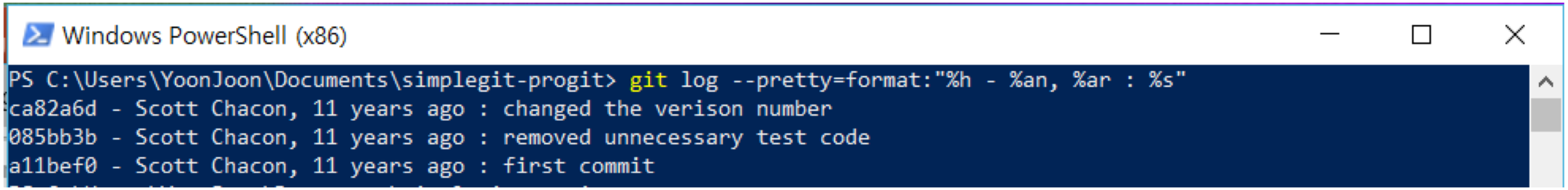
Windows PowerShell (x86)

```
PS C:\Users\YoonJoon\Documents\simplegit-progit> git log --stat
commit ca82a6dff817ec66f44342007202690a93763949 (HEAD -> master, origin/master, origin/HEAD)
Author: Scott Chacon <schacon@gmail.com>
Date:   Mon Mar 17 21:52:11 2008 -0700

    changed the verison number

 Rakefile | 2 +-
 1 file changed, 1 insertion(+), 1 deletion(-)

commit 085bb3bcb608e1e8451d4b2432f8ecbe6306e7e7
Author: Scott Chacon <schacon@gmail.com>
Date:   Sat Mar 15 16:40:33 2008 -0700

    removed unnecessary test code

 lib/simplegit.rb | 5 -----
 1 file changed, 5 deletions(-)

commit a11bef06a3f659402fe7563abf99ad00de2209e6
Author: Scott Chacon <schacon@gmail.com>
Date:   Sat Mar 15 10:31:28 2008 -0700

    first commit

 README           |  6 ++++++
 Rakefile         | 23 +++++++++++++++++++++++
 lib/simplegit.rb | 25 +++++++++++++++++++++++++
 3 files changed, 54 insertions(+)
```

To changes the log output to formats other than the default, we can use the **`--pretty`** option:



The option is `format`, which allows us to specify our own log output format.

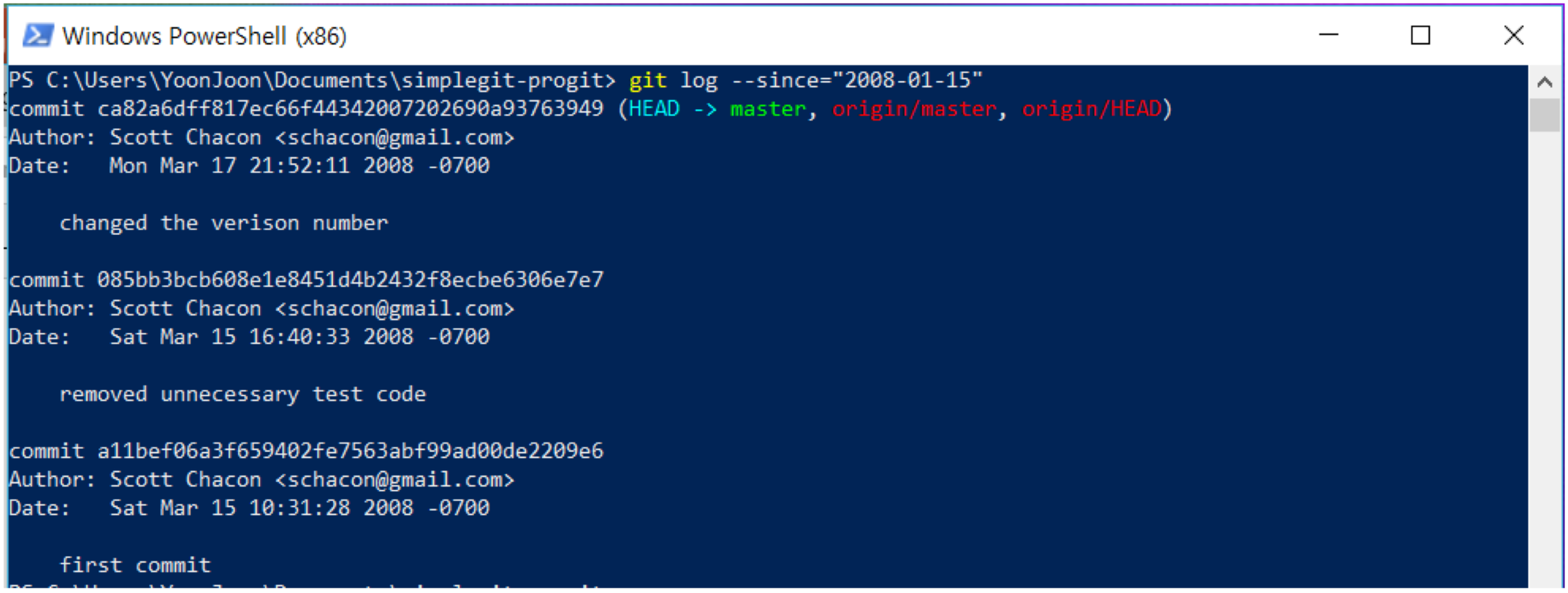


The `oneline` and `format` options are particularly useful with another log option called `--graph`. This option adds a nice little ASCII graph showing your branch and merge history:

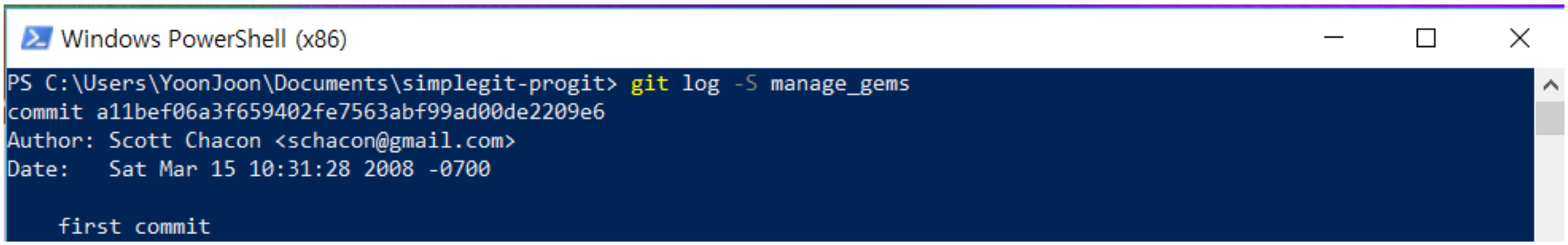
```
$ git log --pretty=format:"%h %s" --graph
* 2d3acf9 ignore errors from SIGCHLD on trap
*  5e3ee11 Merge branch 'master' of git://github.com/dustin/grit
|\
| * 420eac9 Added a method for getting the current branch.
* | 30e367c timeout code and tests
* | 5a09431 add timeout protection to grit
* | e1193f8 support for heads with slashes in them
|/
* d6016bc require time for xmlschema
*  11d191e Merge branch 'defunkt' into local
```

Limiting Log Output

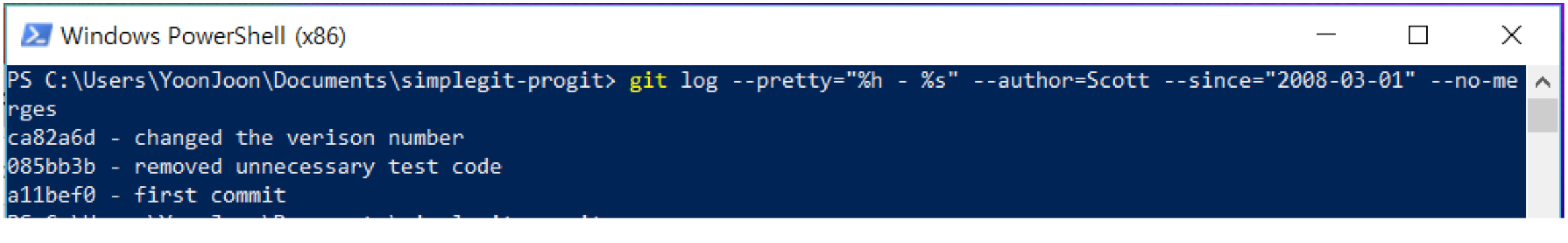
The time-limiting options such as **`--since`** and **`--until`** are very useful. For example, this command gets the list of commits made since 2008-01-15:



If we wanted to find the last commit that added or removed a reference to a specific function, we could call:



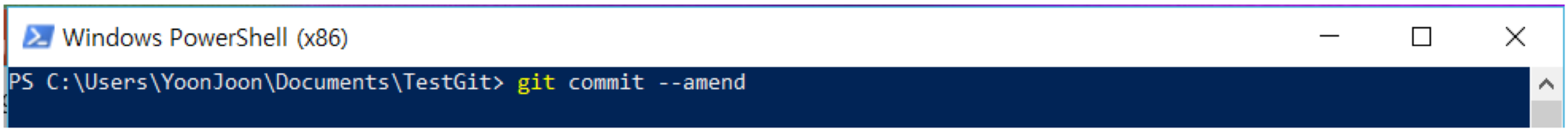
If you want to see which commits modifying test files in the Git source code history were committed by Scott in the month of March 2008 and are not merge commits, we can run something like this:



Undoing Things

Be careful, because we can't always undo some of these undos. This is one of the few areas in Git where we may lose some work if we do it wrong.

One of the common undos takes place when we commit too early and possibly forget to add some files, or we mess up our commit message. If we want to redo that commit, make the additional changes you forgot, stage them, and commit again using the **`--amend`** option:



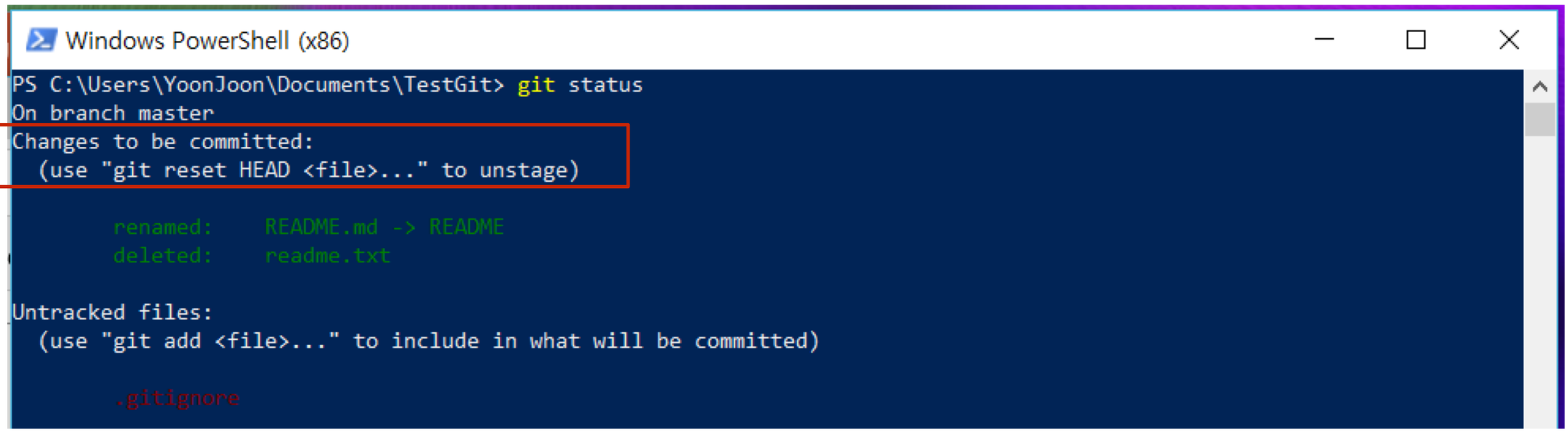
This command takes your staging area and uses it for the commit. If we've made no changes since our last commit, then our snapshot will look exactly the same, and all we'll change is our commit message.

If we commit and then realize we forgot to stage the changes in a file we wanted to add to this commit, we can do something like this:

```
$ git commit -m 'initial commit'
$ git add forgotten_file
$ git commit --amend
```

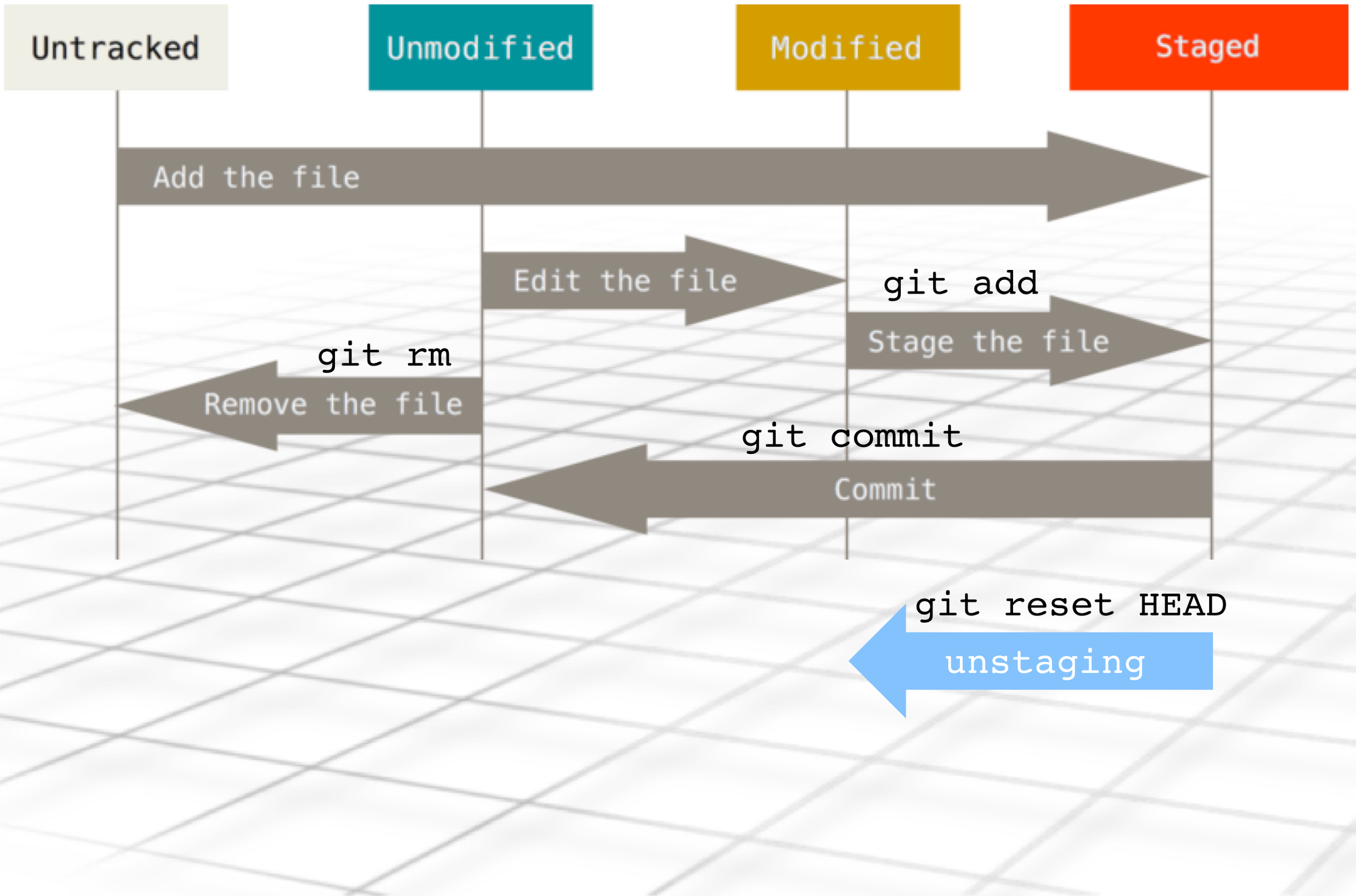
Unstaging a Staged File

Let's say we've changed two files and want to commit them as two separate changes, but we accidentally type `git add *` and stage them both. How can we unstage one of the two?



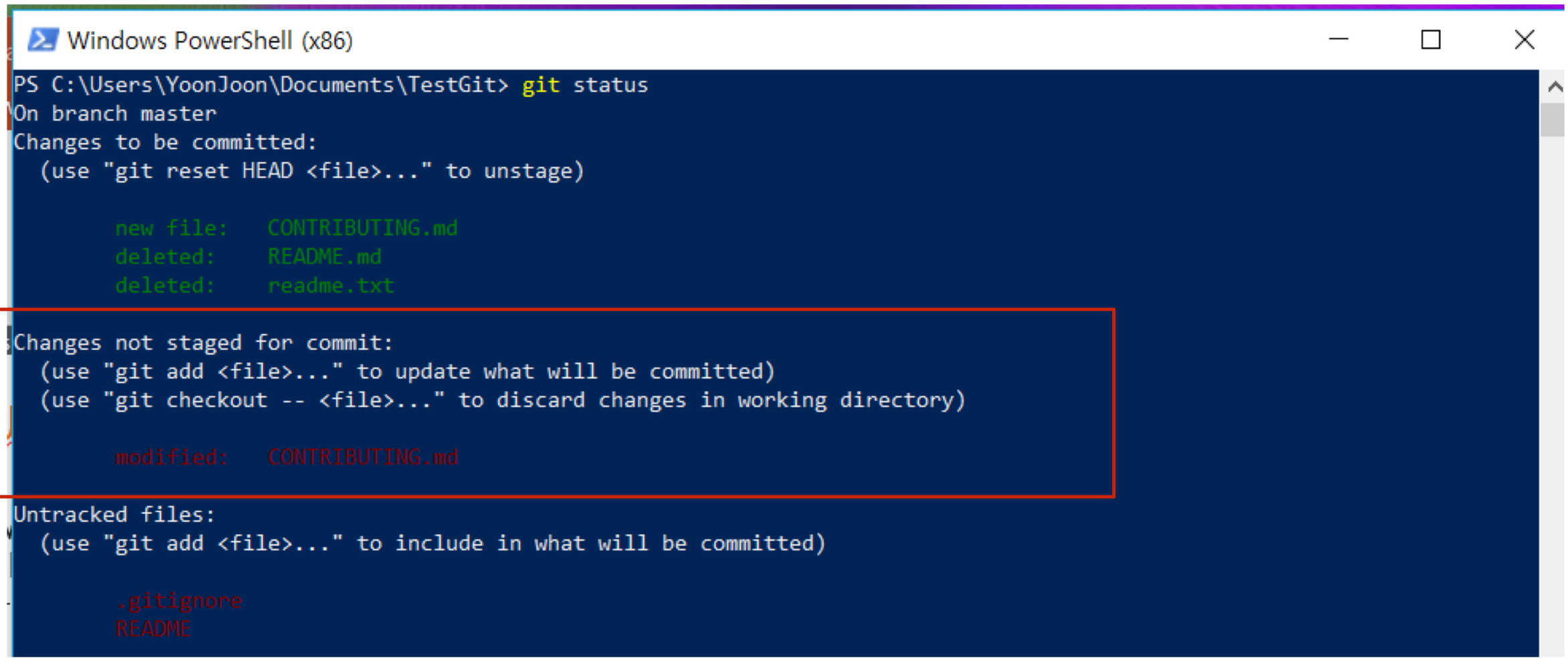
The “Changes to be committed” text, it says `use git reset HEAD <file>...` to unstage. So, let’s use that advice to unstage the `CONTRIBUTING.md` file:

```
PS C:\Users\YoonJoon\Documents\TestGit> git reset HEAD README
PS C:\Users\YoonJoon\Documents\TestGit> git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        deleted:    README.md
        deleted:    readme.txt

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

        .gitignore
        README
```

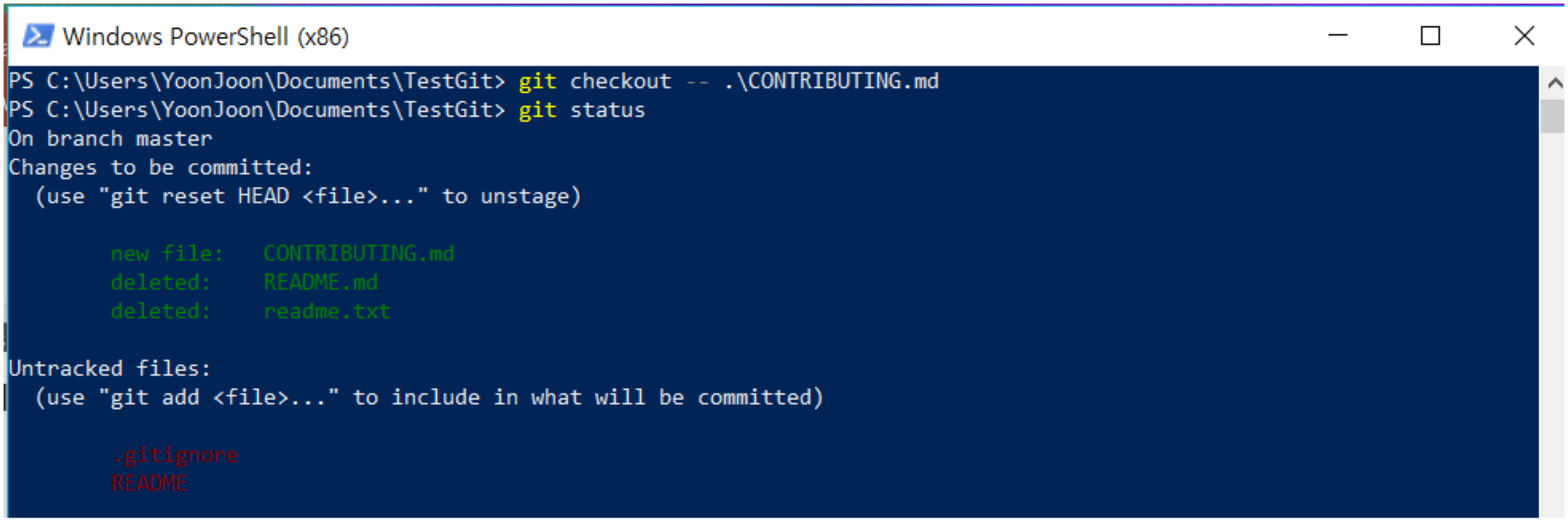

Untracked
Unmodified
Modified
Staged
Add the file
Edit the file
git add
Stage the file
git rm
Remove the file
git commit
Commit
git reset HEAD
unstaging

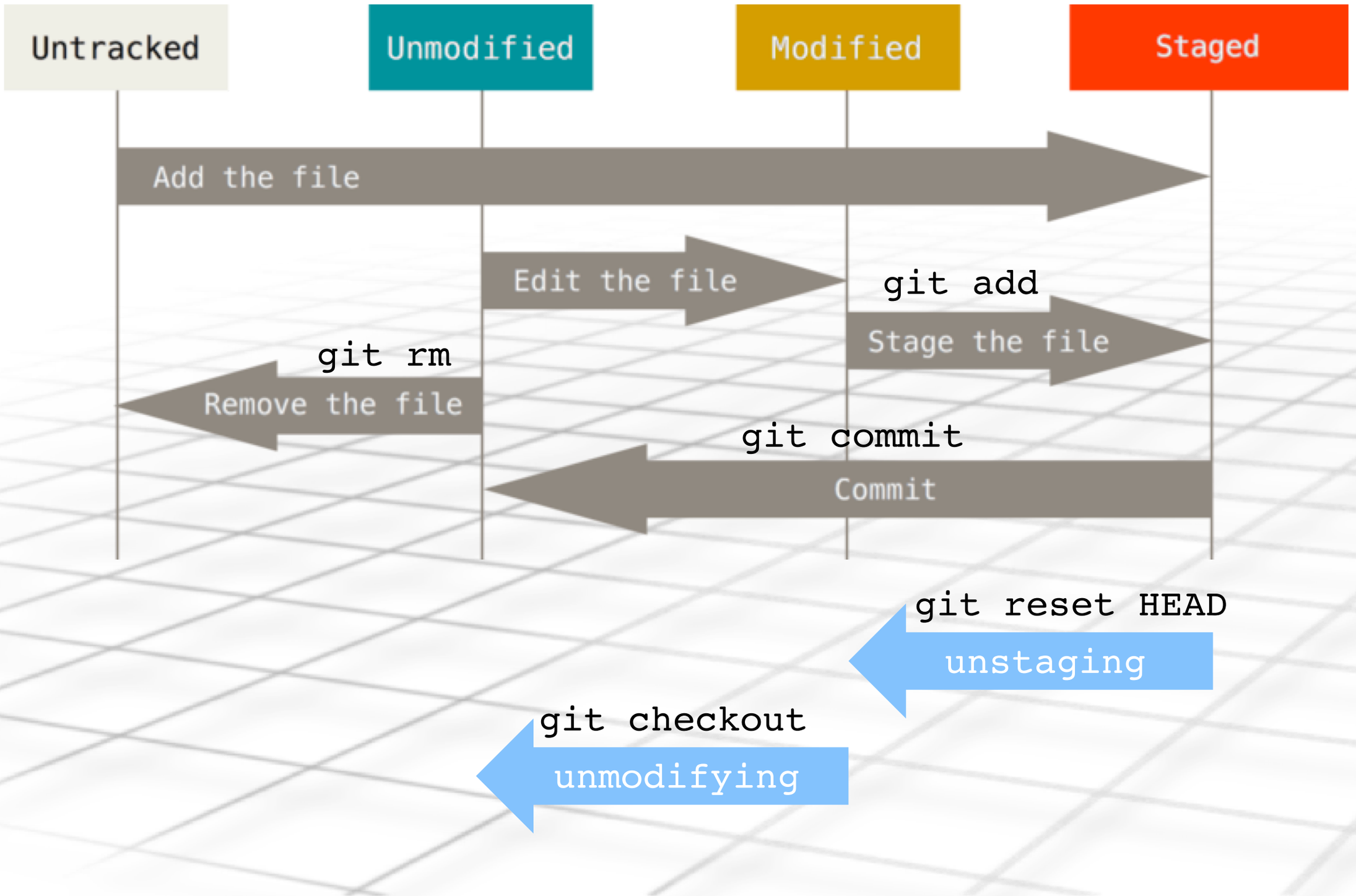
Unmodifying a Modified File

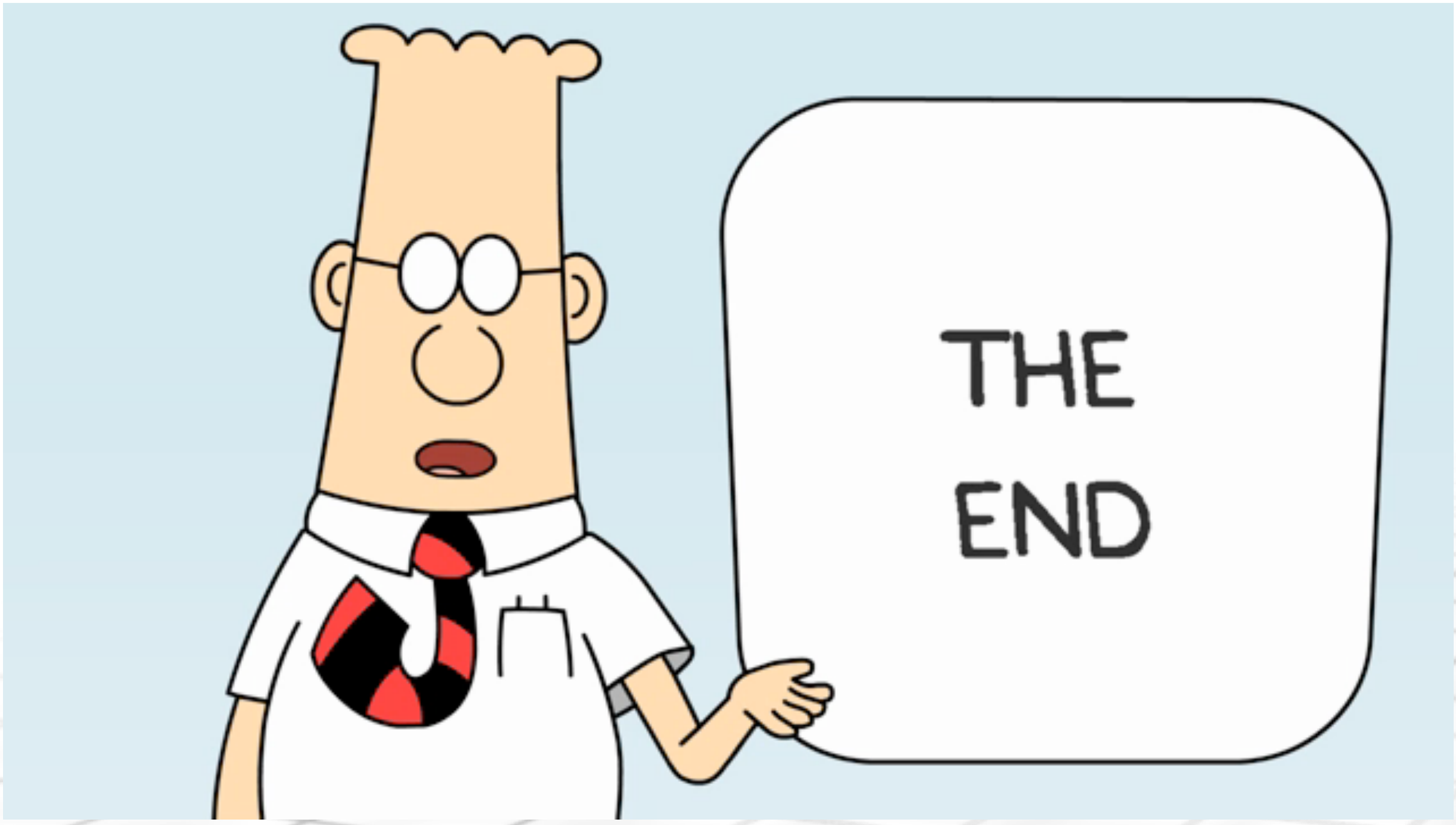
What if you realize that you don't want to keep your changes to the `CONTRIBUTING.md` file? git status tells you how to do that, too like this:



It tells us pretty explicitly how to discard the changes we've made:




Untracked
Unmodified
Modified
Staged
Add the file
Edit the file
git add
Stage the file
git rm
Remove the file
git commit
Commit
git reset HEAD
unstaging
git checkout
unmodifying



출처: metachannels.com

감사합니다