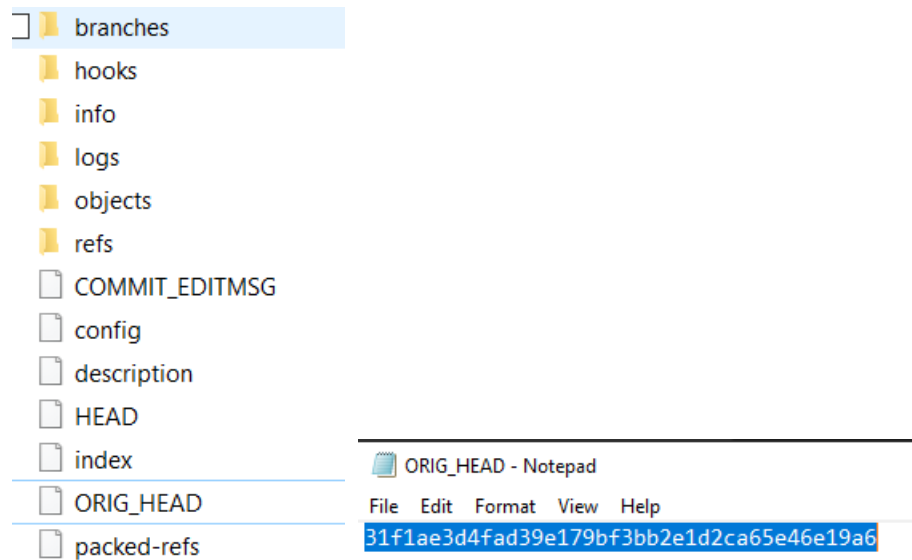Opening the .git folder we see a file called ORIG_HEAD

Flag: 31f1ae3d4fad39e179bf3bb2e1d2ca65e46e19a6

Git Gud 1

50

How many commits have been made to this repository?

Look at the logs folder and the HEAD file there to see a bunch of commits.


```
1596569595 -0500    commit: Change challenge text
1596569595 -0500    commit: Change challenge text
1596569595 -0500    commit: Challenge starts here
1596570570 -0500    checkout: moving from master to
```

| | Ln 302, Col 139 | 100% | Unix (LF) | |

We see that the first 302 lines are commits.

Flag: 302

Git Gud 2

50

Which username authored the most commits?

0/5 attempts

Using the git cli on linux we can use git log to view the info


```
commit 31f1ae3d4fad39e179bf3bb2e1d2ca65e46e19a6 (HEAD → master)
Author: WhiteCell <WhiteCell@5charlie.com>
Date:   Tue Aug 4 14:33:15 2020 -0500

    Challenge starts here

commit 0f6e5c6ac494d6b71071985166a3dce419f406b0
Author: Rip <WhiteCell@5charlie.com>
Date:   Tue Aug 4 14:33:15 2020 -0500

    Change challenge text
```

Now we see the Author so we can string together some commands to create a nice list

git log | grep Author | sort | uniq -c | sort -n


```
kali@kali:~/Desktop/gitgud (2)$ git log | grep Author | sort | uniq -c | sort -n
      2 Author: WhiteCell <WhiteCell@5charlie.com>
      7 Author: Josiah <WhiteCell@5charlie.com>
      8 Author: Bent <WhiteCell@5charlie.com>
     10 Author: Jamison <WhiteCell@5charlie.com>
     11 Author: Gerard <WhiteCell@5charlie.com>
     12 Author: Chevalier <WhiteCell@5charlie.com>
     12 Author: Wolf <WhiteCell@5charlie.com>
     13 Author: Way <WhiteCell@5charlie.com>
     15 Author: Barclay <WhiteCell@5charlie.com>
     15 Author: Clarance <WhiteCell@5charlie.com>
     15 Author: Rip <WhiteCell@5charlie.com>
     15 Author: Vasily <WhiteCell@5charlie.com>
     16 Author: Cale <WhiteCell@5charlie.com>
     16 Author: Roddie <WhiteCell@5charlie.com>
     17 Author: Elijah <WhiteCell@5charlie.com>
     17 Author: Hurlee <WhiteCell@5charlie.com>
     17 Author: Llewellyn <WhiteCell@5charlie.com>
     18 Author: Emmy <WhiteCell@5charlie.com>
     18 Author: Matty <WhiteCell@5charlie.com>
     22 Author: Eduard <WhiteCell@5charlie.com>
     26 Author: Haleigh <WhiteCell@5charlie.com>
```

Flag: Haleigh

Git Gud 3

50

What file is was removed from the git repository prior to the current commit?

Run git log and find the second to last commit


```
commit 4ef8f9192534ec1a8291f3b547b5b7000051d249
Author: Eduard <WhiteCell@5charlie.com>
Date:    Tue Aug 4 14:33:12 2020 -0500

    Change challenge text

commit 53e03c05b8e9ce20eb2d6ac0cbeb5ff3530d0f34
Author: WhiteCell <WhiteCell@5charlie.com>
Date:    Tue Aug 4 14:33:12 2020 -0500

    initial commit
(END)
```

Git show with the hash of the commit


```
kali@kali:~/Desktop/gitgud (2)$ git show 4ef8f9192534ec1a8291f3b547b5b7000051d249
commit 4ef8f9192534ec1a8291f3b547b5b7000051d249
Author: Eduard <WhiteCell@5charlie.com>
Date:    Tue Aug 4 14:33:12 2020 -0500

    Change challenge text

diff --git a/Im_JuSt_A_fIlE.tXt b/Im_JuSt_A_fIlE.tXt
index b968ebf..6a04951 100644
--- a/Im_JuSt_A_fIlE.tXt
+++ b/Im_JuSt_A_fIlE.tXt
@@ -1 +1 @@
-VXNlIGdpdCBiaXNlY3QgOi0p
+bWFpbGJveA==
```

*** Line of code that displays deleted files: git log --diff-filter=D –summary


```
kali@kali:~/Desktop/gitgud (2)$ git log --diff-filter=D --summary
commit 31f1ae3d4fad39e179bf3bb2e1d2ca65e46e19a6 (HEAD → master)
Author: WhiteCell <WhiteCell@5charlie.com>
Date:    Tue Aug 4 14:33:15 2020 -0500

    Challenge starts here

 delete mode 100644 Im_JuSt_A_fIlE.tXt
```

Flag: Im_JuSt_A_fIlE.tXt

Git Gud 4

50

Before it was removed, what was the
md5sum of Im_JuSt_A_fIlE.tXt?

To restore the file the following code:

git checkout 31f1ae3d4fad39e179bf3bb2e1d2ca65e46e19a6~1 Im_JuSt_A_fIlE.tXt


```
error: pathspec  Im_JuSt_A_fIlE.tXt  did not match any file(s) known to git
kali@kali:~/Desktop/gitgud (2)$ git checkout 31f1ae3d4fad39e179bf3bb2e1d2ca65e46e19a6~1 Im_JuSt_A_fIlE.tXt
Updated 1 path from 964fd80
kali@kali:~/Desktop/gitgud (2)$ ls
hint.txt  Im_JuSt_A_fIlE.tXt
kali@kali:~/Desktop/gitgud (2)$ md5sum Im_JuSt_A_fIlE.tXt
ebf06dc84c65f37d3bc51e3a2294274d  Im_JuSt_A_fIlE.tXt
```

Flag: ebf06dc84c65f37d3bc51e3a2294274d

For this I wrote a script. First I pulled out all the commits to a text file

git log | grep commit | cut -d" " -f2 > commits.txt

then I wrote a script that would look at each commit, pull the file down and base64 decode the text.

```
#!/bin/bash

while read p; do
  echo "$p"
  echo
  git checkout $p~1 Im_JuSt_A_fIlE.tXt
  cat Im_JuSt_A_fIlE.tXt | base64 -d
  echo
done <commits.txt
```

then I would grep the loop.sh and pipe it to grep to find 5charlie

./loop.sh | grep 5charlie -A 1

That would give me the locations of all 5charlies

I took 13e26 commit and looked at what the commit right before that one.

cat commits.txt | grep "13e26fc98e330acd33bedb5d57379eba2ba29f91" -A 3 -B 3

Older is below in git log.

Flag: 40b2c7cc8a360c7757b590d215b6205ebaf8ba87

Git Gud 6

50

Which author put added the 5charlie
base64?

0/10 attempts

Look at the commit summary for 13e26fc98e330acd33bedb5d57379eba2ba29f91

git log | grep 13e26fc98e330acd33bedb5d57379eba2ba29f91 -A 6


```
kali@kali:~/Desktop/gitgud (2)$ git log | grep 13e2
commit 13e26fc98e330acd33bedb5d57379eba2ba29f91
Author: Jamison <WhiteCell@5charlie.com>
Date:   Tue Aug 4 14:33:13 2020 -0500

    Change challenge text

commit 40b2c7cc8a360c7757b590d215b6205ebaf8ba87
```

Flag: Jamison

Git Gone

120

What is the commit hash if you remove
Im_JuSt_A_fIlE.tXt from the git
entirely?

(remove it from ALL commits)

Command to remove all traces:

git filter-branch --force --index-filter   'git rm --cached --ignore-unmatch Im_JuSt_A_fIlE.tXt'   --prune-empty --tag-name-filter cat -- --all


```
kali@kali:~/Desktop/gitgud (2)$ git filter-branch --force --index-filter   'git rm --cached --ignore-unmatch Im_JuSt_A_fIlE.tXt'   --prune-empty --tag-name-filter cat -- --all
WARNING: git-filter-branch has a glut of gotchas generating mangled history
         rewrites.  Hit Ctrl-C before proceeding to abort, then use an
         alternative filtering tool such as 'git filter-repo'
         (https://github.com/newren/git-filter-repo/) instead.  See the
         filter-branch manual page for more details; to squelch this warning,
         set FILTER_BRANCH_SQUELCH_WARNING=1.
Proceeding with filter-branch...

Rewrite 53e03c05b8e9ce20eb2d6ac0cbeb5ff3530d0f34 (1/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite 4ef8f9192534ec1a8291f3b547b5b7000051d249 (2/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite c5db3fbd5c63886fdca0ce7011d6ce81f154f2b2 (3/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite 578db881a3312447360f07248fbce29e9e959ace (4/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite 906c74ca814efa6f028a608e94852f8249923098 (5/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite 6edaeb72fc1db5f9c295f01072ce9cfadea9187b (6/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite ae720146bdb3d49e6f3ee83237f2d030f8a16867 (7/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite ed95428234e93dc59e06bd2aea8ca0f80c073242 (8/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite 796c086a695691d3dac25fcfc8e47798a6690455 (9/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite 8c05d1243f6cd48e72c6fa133ec91a5c9bbe6782 (10/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite 60f0e672747b5d723ef033b6fbbb409840551b04 (11/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite 0b3d54131c68b80964e3a84525c65c0a5f8e4aa8 (12/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite b4b2ec311615659bcfdc42a339902f766f7fa233 (13/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite ee55b236d4d9c4a02acbded8be11c79dd095aa67 (14/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite 54311b8d84d3d8b5379ab40c045645e38fa652e6 (15/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite 1b3b963f0541f3233fa7ec3e8ec8e28ee2b836bb (16/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite 3c8665feb106d56799af507e02866837b88f1361 (17/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite 731a43bec344709ba50163e07eaaeda479089e06 (18/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
Rewrite c6bafc71e3b0bc8ab9f0b25601297dc05ac80152 (19/302) (0 seconds passed, remaining 0 predicted)    rm 'Im_JuSt_A_fIlE.tXt'
```

git log


```
kali@kali:~/Desktop/gitgud (2)$ git log
commit c3c403938694f9bd76841e6237ab2b9020f1ce85 (HEAD → master)
Author: WhiteCell <WhiteCell@5charlie.com>
Date:   Tue Aug 4 14:33:15 2020 -0500

    Challenge starts here
```

flag: c3c403938694f9bd76841e6237ab2b9020f1ce85