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## Chapter 1: The Basics

### Configuring Git

 MINGW64:/c/Users/PC/desktop/learn/out

```
PC@DESKTOP-D9I041N MINGW64 ~  
$ git config --global user.name "Malaika Abid"  
  
PC@DESKTOP-D9I041N MINGW64 ~  
$ git config --global user.email "malaika.ma25@gmail.com"  
  
PC@DESKTOP-D9I041N MINGW64 ~  
$ git config --global color.ui auto
```

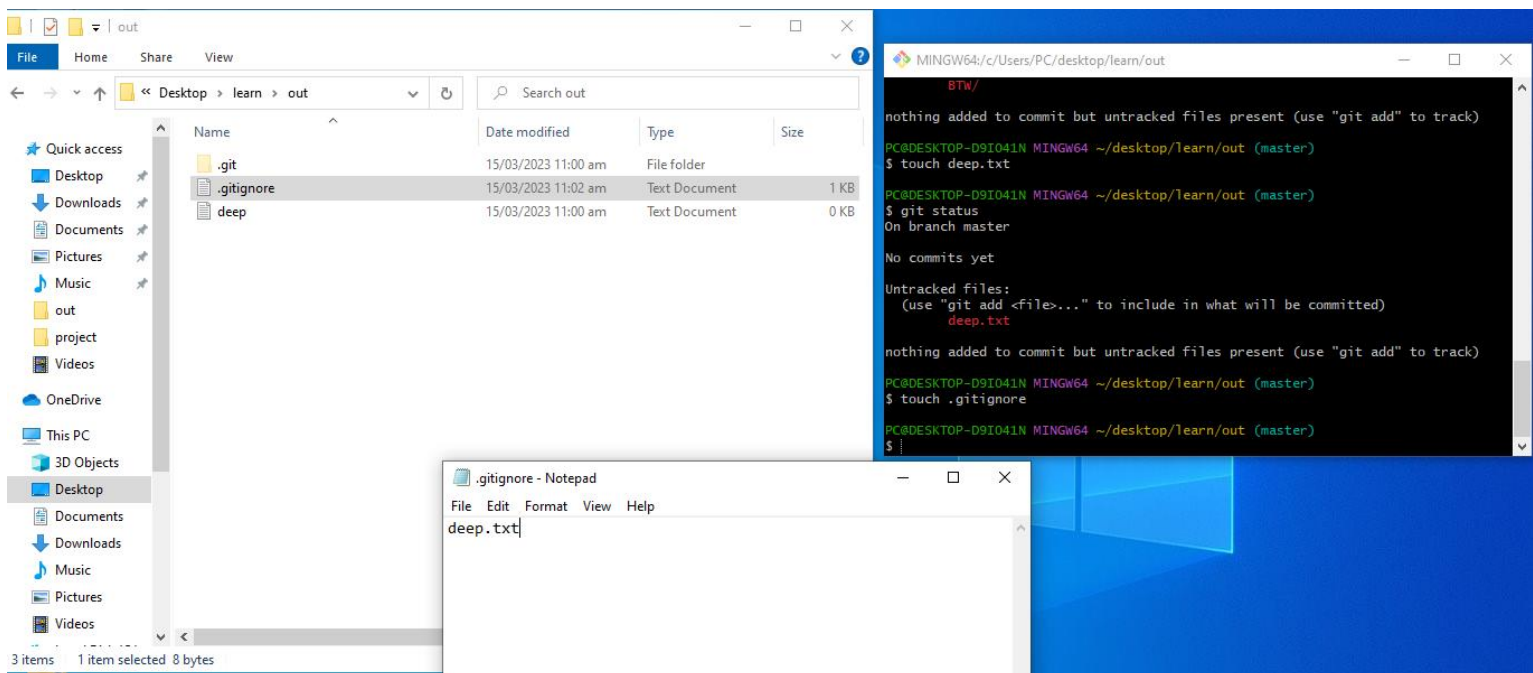
making new directories and getting into it using gitinit

```
PC@DESKTOP-D9I041N MINGW64 ~  
$ cd desktop  
  
PC@DESKTOP-D9I041N MINGW64 ~/desktop  
$ mkdir learn  
  
PC@DESKTOP-D9I041N MINGW64 ~/desktop  
$ cd learn  
  
PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn  
$ mkdir out  
  
PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn  
$ cd out  
  
PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out  
$ git init  
Initialized empty Git repository in C:/Users/PC/Desktop/learn/out/.git/  
  
PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)  
$ |
```

Showing list

Hidden folder .git is created which is empty local repository for us.

```
PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ ls -la
total 4
drwxr-xr-x 1 PC 197121 0 Mar 15 09:14 ./
drwxr-xr-x 1 PC 197121 0 Mar 15 09:12 ../
drwxr-xr-x 1 PC 197121 0 Mar 15 09:14 .git/
```



Ignoring files

```
MINGW64:/c/Users/PC/desktop/learn/out

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

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

PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ touch .gitignore

PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git status
On branch master

No commits yet

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)

PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ |
```

File Explorer window showing the contents of the 'out' folder. The address bar shows the path: Desktop > learn > out. The left sidebar shows the 'out' folder selected under 'Quick access'. The main pane displays a list of files and folders.


Name	Date modified	Type	Size
.git	15/03/2023 11:12 am	File folder	
.gitignore	15/03/2023 11:02 am	Text Document	1 KB
.txt	15/03/2023 11:13 am	Text Document	0 KB
deep - Copy (2)	15/03/2023 11:00 am	Text Document	0 KB
deep - Copy (3)	15/03/2023 11:00 am	Text Document	0 KB
deep - Copy (4)	15/03/2023 11:00 am	Text Document	0 KB
deep - Copy (5)	15/03/2023 11:00 am	Text Document	0 KB
deep - Copy	15/03/2023 11:00 am	Text Document	0 KB
deep	15/03/2023 11:00 am	Text Document	0 KB

```
PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        .gitignore
        .txt
        deep - Copy (2).txt
        deep - Copy (3).txt
        deep - Copy (4).txt
        deep - Copy (5).txt
        deep - Copy.txt

nothing added to commit but untracked files present (use "git add" to track)
PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ |
```

 .gitignore - Notepad

File Edit Format View Help

\*.txt

```
PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git status
On branch master

No commits yet

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)
PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ |
```

**Git add -a ->staging area.**

```
PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git add --a

PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   .gitignore

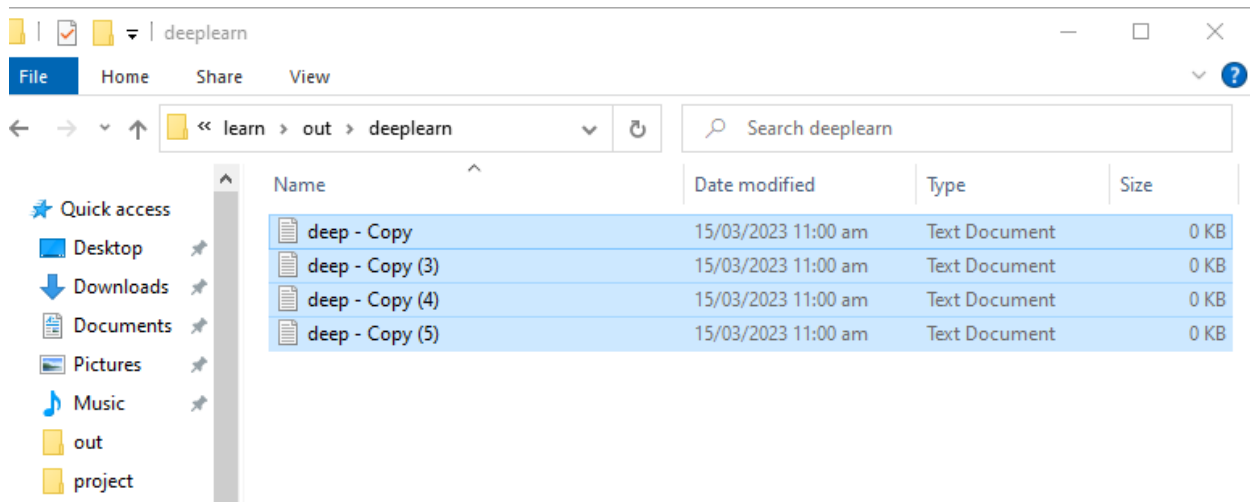
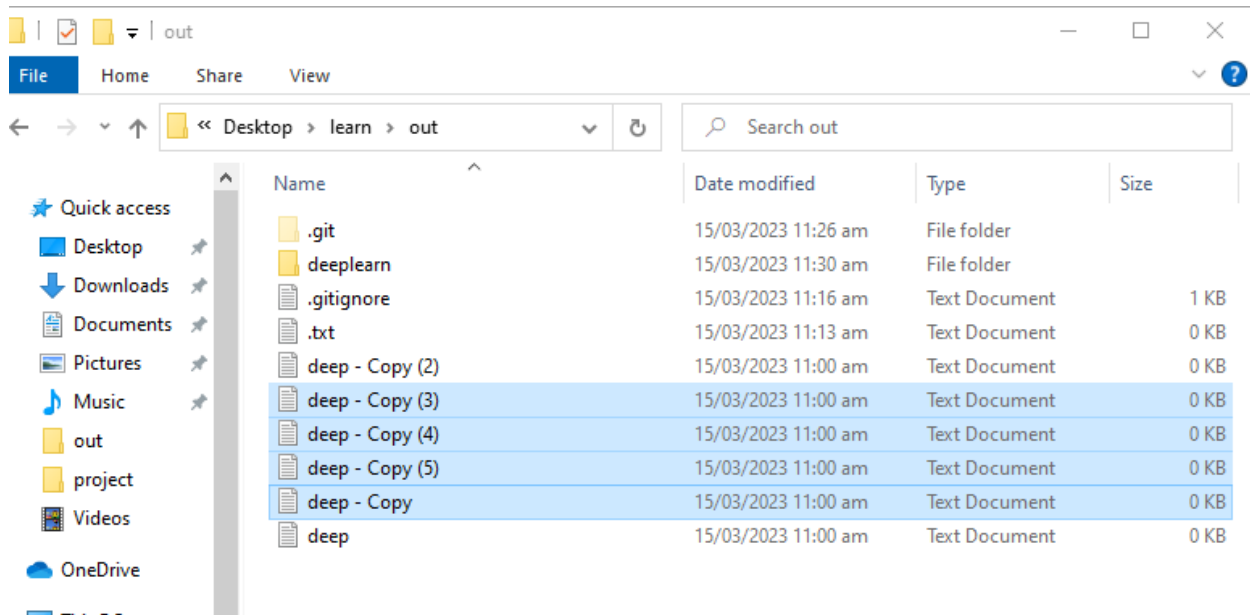
PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ |
```

```
PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git commit -m "gitignore"
[master (root-commit) 8089a10] gitignore
 1 file changed, 1 insertion(+)
 create mode 100644 .gitignore

PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git status
On branch master
nothing to commit, working tree clean

PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ |
```

## Ignoring dir

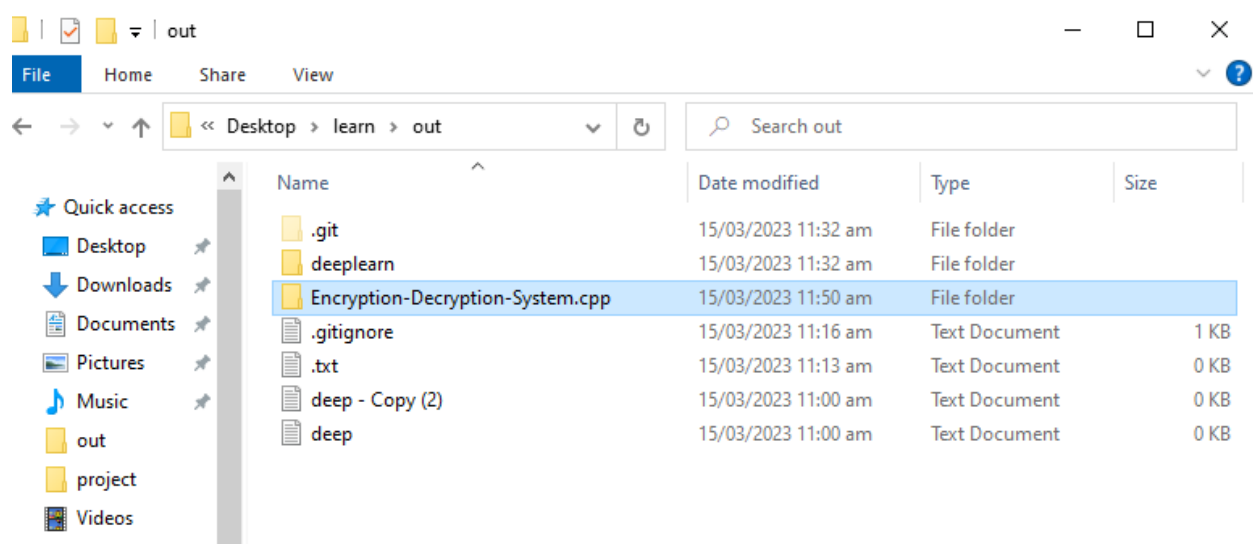


```
PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ mkdir deeplearn

PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git status
On branch master
nothing to commit, working tree clean
```

**Git clone**

```
PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git clone https://github.com/Malaika-Abid/Encryption-Decryption-System.cpp.git
Cloning into 'Encryption-Decryption-System.cpp'...
remote: Enumerating objects: 6, done.
remote: Counting objects: 100% (6/6), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (6/6), done.
```



**Once file are staged you cannot remove file with rm command**

```

PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ touch new1.html lab.css index.html

PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git add --a

PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   Encryption-Decryption-System.cpp
    new file:   index.html
    new file:   lab.css
    new file:   new1.html

PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git rm lab.css
error: the following file has changes staged in the index:
    lab.css
(use --cached to keep the file, or -f to force removal)

```

## Commit a Message

Make some changes in any file at your root folder

```

PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git add .

PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git commit -m "this is my first commit"
[master 063fbf8] this is my first commit
2 files changed, 1 insertion(+)
create mode 160000 Encryption-Decryption-System.cpp
create mode 100644 lab.css

```

## Inspecting the commit history

Use command “git log” to view commit history.



```

PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git log
commit 063fbf887cd6c625c0157affd89a85284f211913 (HEAD -> master)
Author: Malaika Abid <malaika.ma25@gmail.com>
Date:   Wed Mar 15 21:18:53 2023 -0700

    this is my first commit

commit 8089a10fcb47b2e1290b59335b71914f4bbceca4
Author: Malaika Abid <malaika.ma25@gmail.com>
Date:   Wed Mar 15 11:26:47 2023 -0700

    gitignore

```

## Detailed changes in commit

Use `git log -p` to view detailed changes that happened in each commit.

```

PC@DESKTOP-D9I041N MINGW64 ~/desktop/learn/out (master)
$ git log -p
commit 063fbf887cd6c625c0157affd89a85284f211913 (HEAD -> master)
Author: Malaika Abid <malaika.ma25@gmail.com>
Date:   Wed Mar 15 21:18:53 2023 -0700

    this is my first commit

diff --git a/Encryption-Decryption-System.cpp b/Encryption-Decryption-System.cpp
new file mode 160000
index 0000000..08e9fac
--- /dev/null
+++ b/Encryption-Decryption-System.cpp
@@ -0,0 +1 @@
+Subproject commit 08e9fac40940e203ab44de02942935352934b84d
diff --git a/lab.css b/lab.css
new file mode 100644
index 0000000..e69de29

commit 8089a10fcb47b2e1290b59335b71914f4bbceca4
Author: Malaika Abid <malaika.ma25@gmail.com>
Date:   Wed Mar 15 11:26:47 2023 -0700

    gitignore

```

## Task 2

### Chapter 2: Branching and Merging

#### Create a Branch

```
MINGW64:/c/Users/PC/Desktop/learn/out
PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (master)
$ git branch test
```

#### Branch -v

```
PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (master)
$ git branch -v
A          063fbf8 this is my first commit
AA         b165b4f this is branch no 1
contact-form 063fbf8 this is my first commit
* master    b165b4f this is branch no 1
test       b165b4f this is branch no 1
```

#### Changing Branch

Use “checkout <branch name>”

```
MINGW64:/c/Users/PC/Desktop/learn/out
PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (master)
$ git checkout test
Switched to branch 'test'
D      index.html
D      lab.css

PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (test)
$ git status
On branch test
Changes not staged for commit:
  (use "git add/rm <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        deleted:    index.html
        deleted:    lab.css

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

```
MINGW64:/c/Users/PC/Desktop/learn/out
PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (test)
$ git stash
Saved working directory and index state WIP on test: b165b4f this is branch no 1

PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (test)
$ git status
On branch test
nothing to commit, working tree clean

PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (test)
$ git stash list
stash@{0}: WIP on test: b165b4f this is branch no 1

PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (test)
$ git stash -u
Saved working directory and index state WIP on test: b165b4f this is branch no 1

PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (test)
$ git stash save "hi i am malaika"
```

```
PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (contact-form)
$ touch contact.html

PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (contact-form)
$ git commit-m " new contact"
git: 'commit-m' is not a git command. See 'git --help'.

The most similar command is
    commit-tree

PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (contact-form)
$ git commit -m "new contact"
On branch contact-form
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    contact.html

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

```
PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (contact-form)
$ git add.
git: 'add.' is not a git command. See 'git --help'.

The most similar command is
    add

PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (contact-form)
$ git add .

PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (contact-form)
$ git commit -m " this is my project"
[contact-form 210ecdd] this is my project
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 contact.html
```

```

PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (contact-form)
$ git log
commit 210ecddfd693c328e0dab1068f77d5418b7e1c68 (HEAD -> contact-form)
Author: Malaika Abid <malaika.ma25@gmail.com>
Date: Thu Mar 16 07:29:31 2023 -0700

    this is my project

commit 063fbf887cd6c625c0157affd89a85284f211913 (A)
Author: Malaika Abid <malaika.ma25@gmail.com>
Date: Wed Mar 15 21:18:53 2023 -0700

    this is my first commit

commit 8089a10fcb47b2e1290b59335b71914f4bbceca4
Author: Malaika Abid <malaika.ma25@gmail.com>
Date: Wed Mar 15 11:26:47 2023 -0700

    gitignore

PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (contact-form)
$ git checkout master
Switched to branch 'master'

```

```

PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (contact-form)
$ git checkout master
Switched to branch 'master'

PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (master)
$ git log
commit b165b4f7616fecdd183ddfb9ac07a52a972941542 (HEAD -> master, test, AA)
Author: Malaika Abid <malaika.ma25@gmail.com>
Date: Thu Mar 16 00:22:58 2023 -0700

    this is branch no 1

commit 063fbf887cd6c625c0157affd89a85284f211913 (A)
Author: Malaika Abid <malaika.ma25@gmail.com>
Date: Wed Mar 15 21:18:53 2023 -0700

    this is my first commit

commit 8089a10fcb47b2e1290b59335b71914f4bbceca4
Author: Malaika Abid <malaika.ma25@gmail.com>
Date: Wed Mar 15 11:26:47 2023 -0700

    gitignore

```

## Merging master and contact-form

```
PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (master)
$ git merge contact-form
Merge made by the 'ort' strategy.
 contact.html | 0
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 contact.html

PC@DESKTOP-D9I041N MINGW64 ~/Desktop/learn/out (master)
$ git log
commit 252ad9c217752b5a7221a99d25602982e495770e (HEAD -> master)
Merge: b165b4f 210ecdd
Author: Malaika Abid <malaika.ma25@gmail.com>
Date: Thu Mar 16 07:42:38 2023 -0700

    Merge branch 'contact-form'

commit 210ecddfd693c328e0dab1068f77d5418b7e1c68 (contact-form)
Author: Malaika Abid <malaika.ma25@gmail.com>
Date: Thu Mar 16 07:29:31 2023 -0700

    this is my project

commit b165b4f7616fecdd183ddfb9ac07a52a972941542 (test, AA)
Author: Malaika Abid <malaika.ma25@gmail.com>
Date: Thu Mar 16 00:22:58 2023 -0700

    this is branch no 1

commit 063fbf887cd6c625c0157affd89a85284f211913 (A)
Author: Malaika Abid <malaika.ma25@gmail.com>
Date: Wed Mar 15 21:18:53 2023 -0700

    this is my first commit

commit 8089a10fcb47b2e1290b59335b71914f4bbceca4
Author: Malaika Abid <malaika.ma25@gmail.com>
Date: Wed Mar 15 11:26:47 2023 -0700

    gitignore
```