



LAB 3

GIT AND GITHUB

Fullname: Nguyen Chi Hoang Minh

Student ID: B1809707

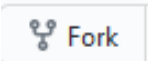
- Note: screenshots need to be clear and good-looking; submissions must be in PDF format.

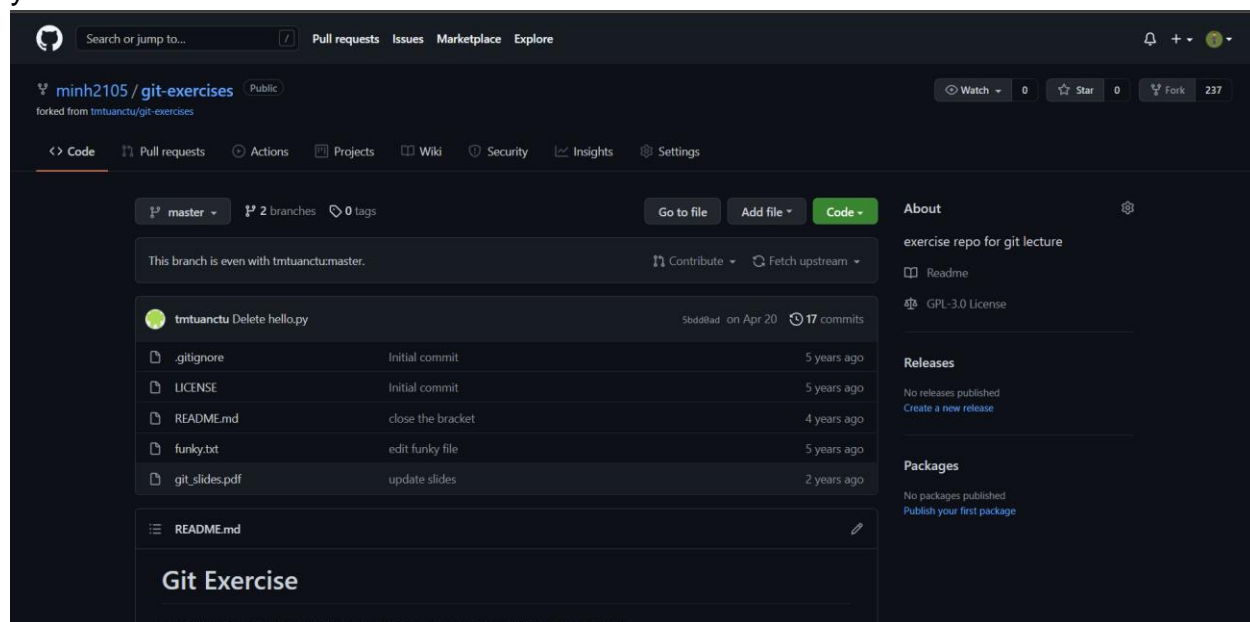
1. Setup and making commits

- Install and setup git on your computer (remember to set your name/email)

```
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git config --global use
r.email "minhb1809707@student.ctu.edu.vn"
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git config --global use
r.name "minh2105"
```

- Create an account (or login) to GitHub at <https://github.com>

- Fork () this repository <https://github.com/TuanThai/git-exercises.git> to your Github account



- Clone the forked repository to your computer

```
b1809707@b1809707-VirtualBox: ~/Downloads
b1809707@b1809707-VirtualBox:~/Downloads$ git clone https://github.com/minh2105/git-exercises
Cloning into 'git-exercises'...
remote: Enumerating objects: 72, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 72 (delta 0), reused 3 (delta 0), pack-reused 68
Unpacking objects: 100% (72/72), 974.31 KiB | 1.90 MiB/s, done.
b1809707@b1809707-VirtualBox:~/Downloads$ ls
git-exercises  VBoxGuestAdditions_6.1.26.iso
b1809707@b1809707-VirtualBox:~/Downloads$
```

- Create and add a new file `helloworld.py`
- Examine the state of your repo

```
$git status
```

```
b1809707@b1809707-VirtualBox:~/Downloads$ cd git-exercises/
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ nano helloworld.py
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git add helloworld.py
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git commit -m "Add helloworld file"
[master 874bd5c] Add helloworld file
1 file changed, 2 insertions(+)
create mode 100644 helloworld.py
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git status
On branch master
Your branch is ahead of 'origin/master' by 1 commit.
(use "git push" to publish your local commits)

nothing to commit, working tree clean
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$
```

- Edit and save your new file, then add it to the staging area. Finally make a new commit with the edited file. At all stages use git status to see how your repository changes

- View the log

```
$git log
```

```
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ nano helloworld.py
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git add helloworld.py
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git commit -m "Modify helloworld
file"
[master 369779b] Modify helloworld file
 1 file changed, 1 insertion(+)
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git log
commit 369779be09f4f102cbbd13323e971bae8c6ad26c (HEAD -> master)
Author: minh2105 <minhb1809707@ctu.edu.vn>
Date:   Mon Sep 27 00:16:44 2021 +0700

    Modify helloworld file

commit 874bd5c1691fbdeb5ab12de2a509ae4ee2eb43ece
Author: minh2105 <minhb1809707@ctu.edu.vn>
Date:   Mon Sep 27 00:14:29 2021 +0700

    Add helloworld file

commit 5bdd0add9eda25061de054e5fa75ae4ff5d272ac (origin/master, origin/HEAD)
Author: Tuan Thai <minhtuanthaivn@gmail.com>
Date:   Tue Apr 20 15:08:24 2021 +0700

    Delete hello.py

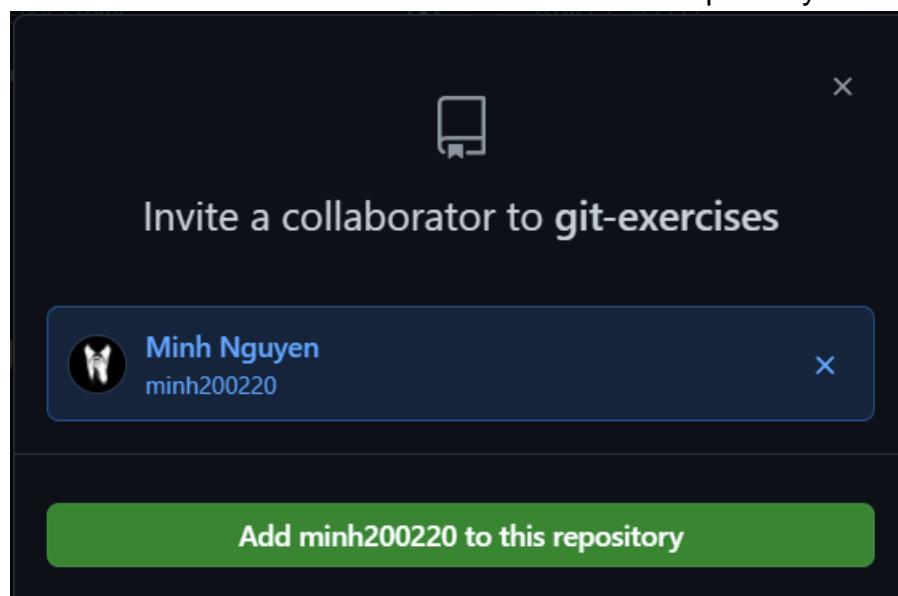
commit 2c83ea3b3cdfd9b228ca9a366e2d1ddeb2d4b7eb
Author: minhtuanthaivn@gmail.com <minhtuanthaivn@gmail.com>
Date:   Sun Apr 4 11:03:25 2021 +0700
```

- Push the commits to the server

```
$git push
```

```
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git push
Username for 'https://github.com': minh2105
Password for 'https://minh2105@github.com':
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 312 bytes | 312.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/minh2105/git-exercises
 369779b..e533641 master -> master
```

- Invite someone to be a collaborator of Github repository



2. Branching and Merging

- Create a new branch "test_functions"

```
$git checkout -b test_functions
```

- Edit helloworld.py file and commit the result

```
$nano helloworld.py
```

```
$git add helloworld.py
```

```
$git commit -m "Modify helloworld.py file"
```

- Display helloworld.py content

```
$cat helloworld.py
```

```
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ nano helloworld.py
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git add helloworld.py
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git commit -m "Modify h
elloworld.py file"
[test_functions 1f1ea24] Modify helloworld.py file
1 file changed, 4 insertions(+)
create mode 100644 helloworld.py
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ cat helloworld.py
#!/usr/bin/python3
print("Hello world")
print("Hello OSS Development")
```

- Swap back to the “master” branch
\$git checkout master
- Display helloworld.py content
\$cat helloworld.py
- Merge “test_functions” branch to “master”
\$git merge test_functions
- Display helloworld.py content. Are there any conflicts?
\$cat helloworld.py

Merge conflict in helloworld.py file

```
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ cat helloworld.py
#!/usr/bin/python3
print("Hello world")
print("Hello Git")
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git merge test_functions
Auto-merging helloworld.py
CONFLICT (content): Merge conflict in helloworld.py
Automatic merge failed; fix conflicts and then commit the result.
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ cat helloworld.py
#!/usr/bin/python3
print("Hello world")
<<<<<<< HEAD
print("Hello Git")
=====
print("Hello OSS Development")

>>>>>> test_functions
```

- Edit helloworld.py file and commit the result

```
$nano helloworld.py
$git add helloworld.py
$git commit -m "Modify helloworld.py file"
```

```
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ nano helloworld.py
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git add helloworld.py
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git commit -m "Modify h
elloworld.py file"
[master dbbdd2c] Modify helloworld.py file
```

- Checkout to test_functions, edit helloworld.py file and commit the result

```
$git checkout test_functions
$nano helloworld.py
$git add helloworld.py
$git commit -m "Modify helloworld.py file"
```

```
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git checkout test_funct
ions
Switched to branch 'test_functions'
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ nano helloworld.py
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git add helloworld.py
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git commit -m "Modify h
elloworld.py file"
[test_functions aefc9da] Modify helloworld.py file
1 file changed, 1 insertion(+), 1 deletion(-)
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ cat helloworld.py
#!/usr/bin/python3
print("Hello world")
print("Hello OSS Development")
print("Hello CTU - CICT")
```

- Swap back to the "master" branch, merge "test_functions" branch to "master"

```
$git checkout master
$git merge test_functions
```

- Are there any conflicts? If YES, resolve the conflict (i.e. edit the conflict markers to match how you want the file to look - like) and commit the result. Use git log to see the resulting commits on the master branch.

```
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git checkout master
Switched to branch 'master'
Your branch is ahead of 'origin/master' by 3 commits.
(use "git push" to publish your local commits)
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git merge test_function
s
Auto-merging helloworld.py
CONFLICT (content): Merge conflict in helloworld.py
Automatic merge failed; fix conflicts and then commit the result.
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ cat helloworld.py
#!/usr/bin/python3
print("Hello world")
print("Hello OSS Development")
<<<<<< HEAD
print("Hello CTU")
=====
print("Hello CTU - CICT")
>>>>>> test_functions
```

```
GNU nano 4.8 helloworld.py
#!/usr/bin/python3
print("Hello world")
print("Hello OSS Development")
print("Hello CTU")
print("Hello CTU - CICT")
```

```
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git add helloworld.py
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git commit -m "Merge helloworld.py file"
[master 246c96f] Merge helloworld.py file
```

```
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git merge test_functions
Already up to date.
```

- View the log to see the resulting commits on the master branch.

\$git log

```
b1809707@b1809707-VirtualBox:~/Downloads/git-exercises$ git log
commit 246c96fceb1274299118728a136fd4102037ac2c (HEAD -> master)
commit 246c96fceb1274299118728a136fd4102037ac2c (HEAD -> master)
Merge: dbbdd2c aefc9da
Author: minh2105 <minhb1809707@student.ctu.edu.vn>
Date: Mon Sep 27 16:37:02 2021 +0700

    Merge hellworld.py file

commit aefc9da7eef0e71a4153c24b6559d3e428261092 (test_functions)
Author: minh2105 <minhb1809707@student.ctu.edu.vn>
Date: Mon Sep 27 16:29:11 2021 +0700

    Modify hellworld.py file

commit dbbdd2cc59cb76241686621684c58cda38d5c13f
Merge: 177cb1d 1f1ea24
Author: minh2105 <minhb1809707@student.ctu.edu.vn>
Date: Mon Sep 27 16:27:59 2021 +0700

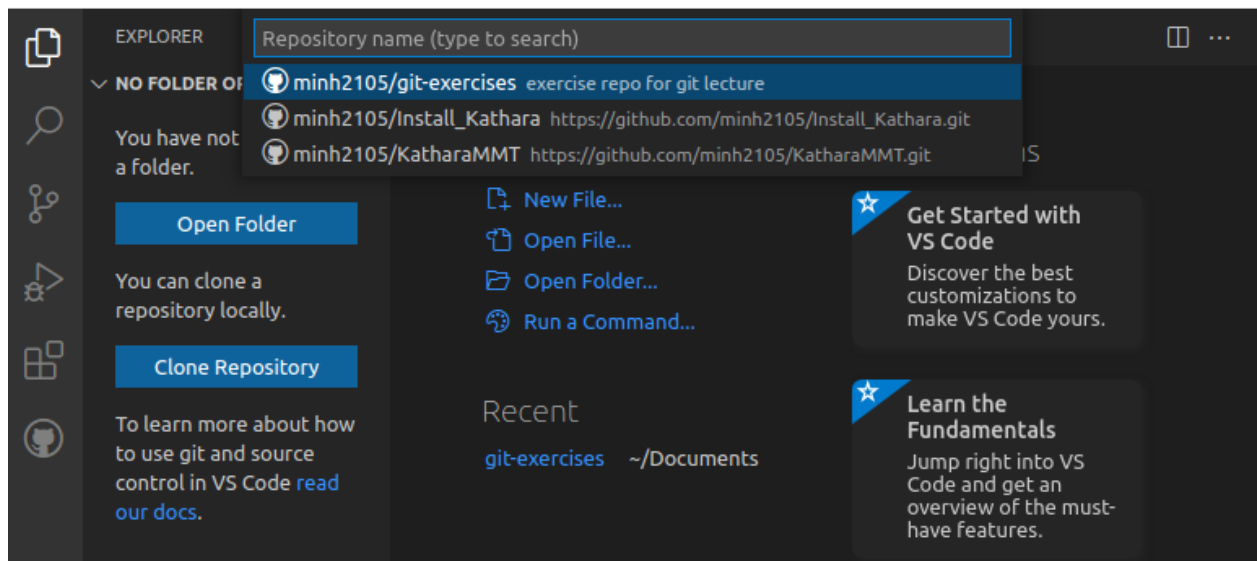
    Modify hellworld.py file

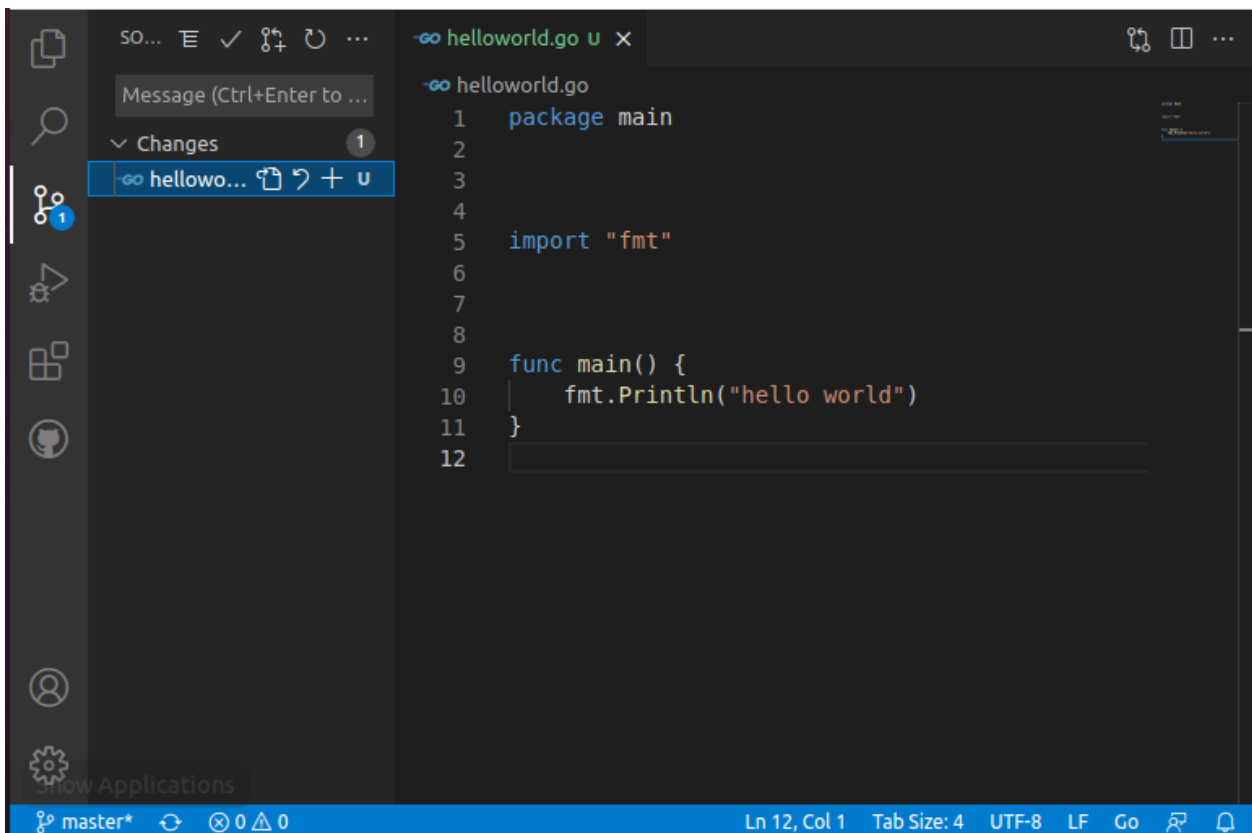
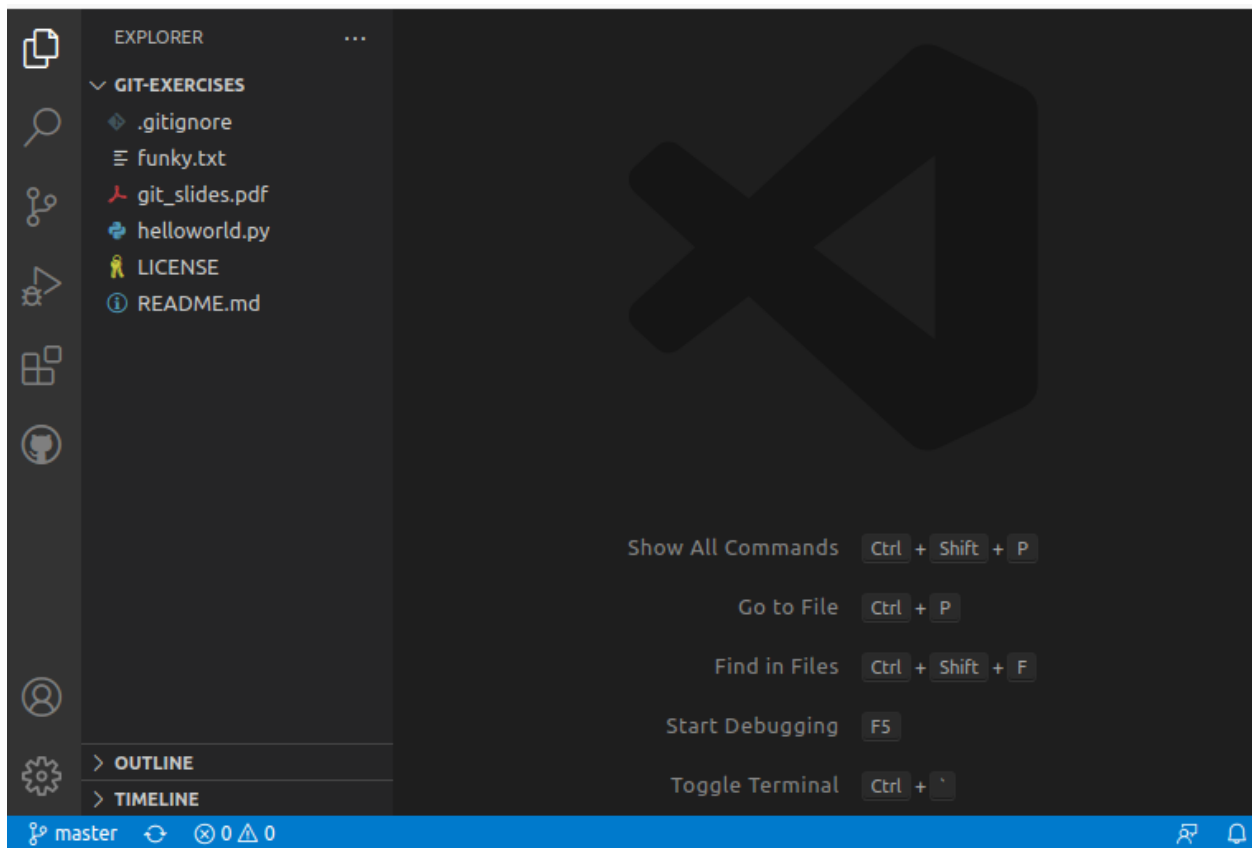
commit 1f1ea240facffe2ef71b007fc28fbb7b6b780482
Author: minh2105 <minhb1809707@student.ctu.edu.vn>
Date: Mon Sep 27 16:17:07 2021 +0700

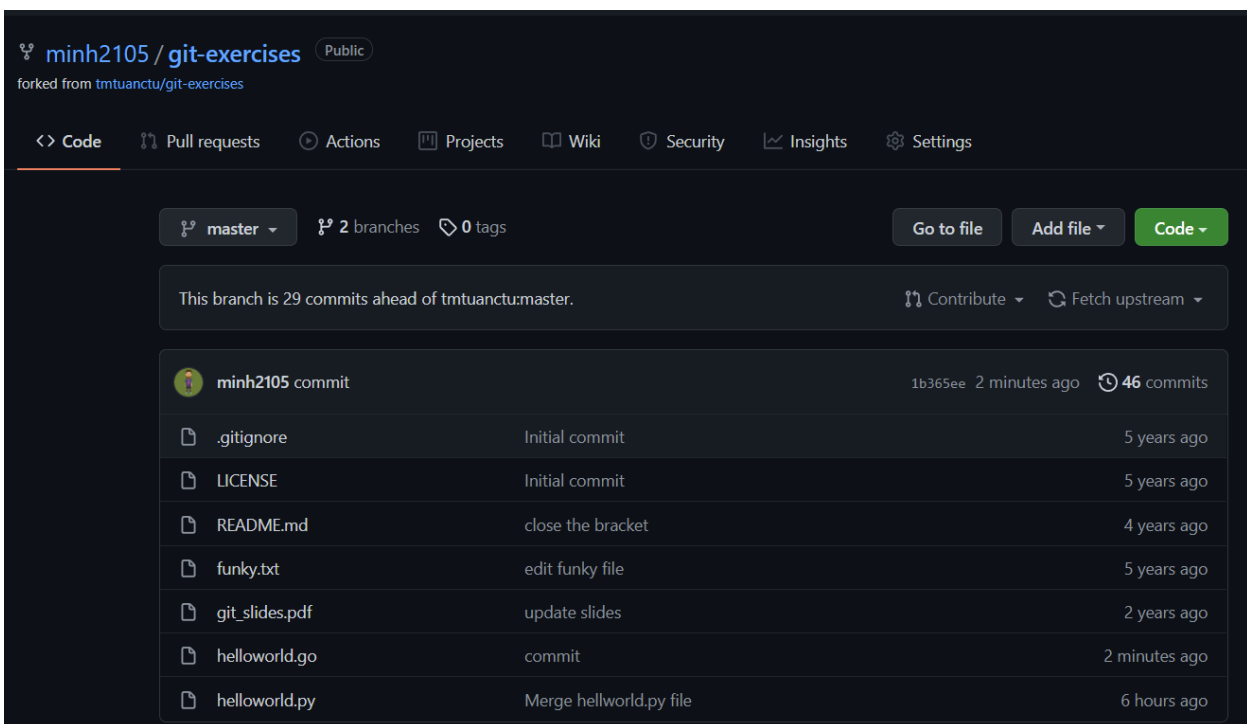
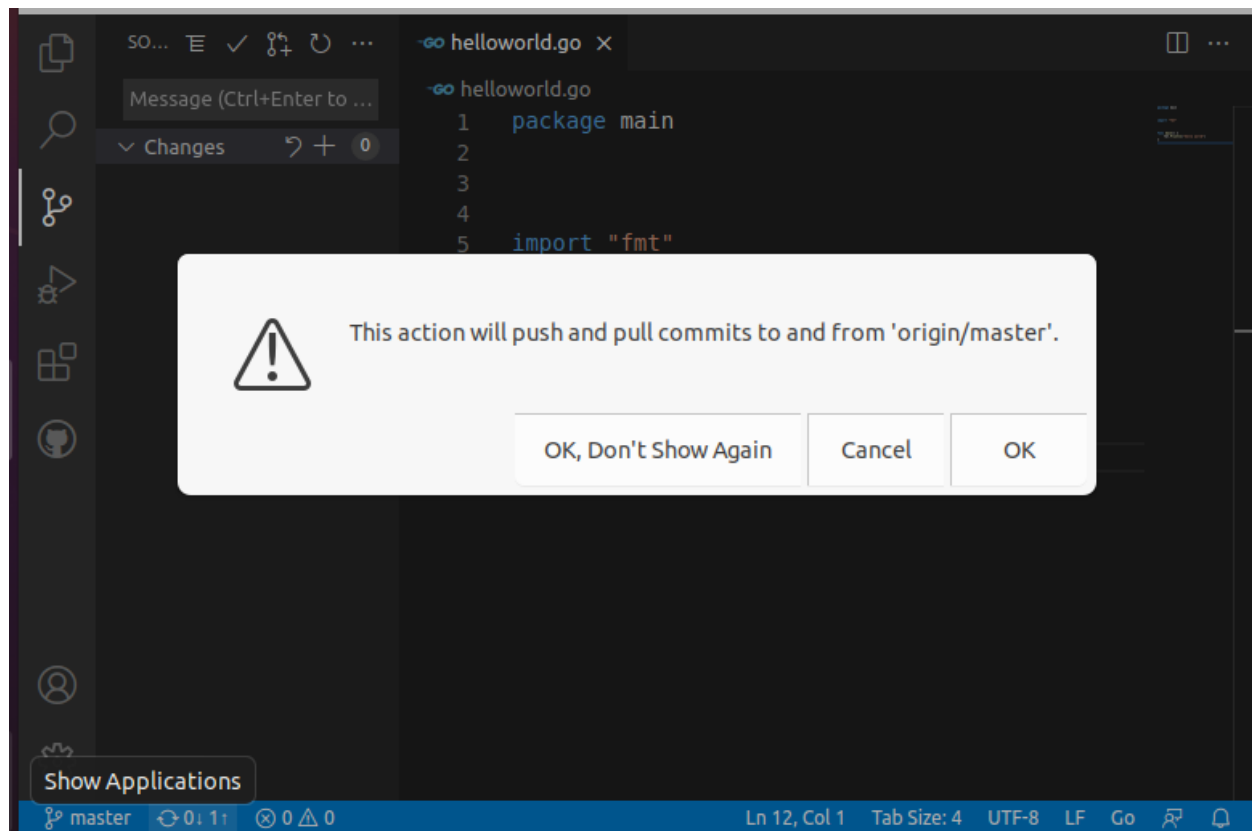
    Modify hellworld.py file
```


3. Working with GitHub in VS Code

- Install VS Code and its GitHub Pull Requests-Issues extension to your computer.
- Sign in GitHub using GitHub Pull Requests and Issues extension.
- Clone a remote repository to your computer.
- Create and add a new file to the local repository, then commit everything you have done so far.
- Push the commits to the remote repository.







---END---