

Software Quality Engineering

Assignment # 02

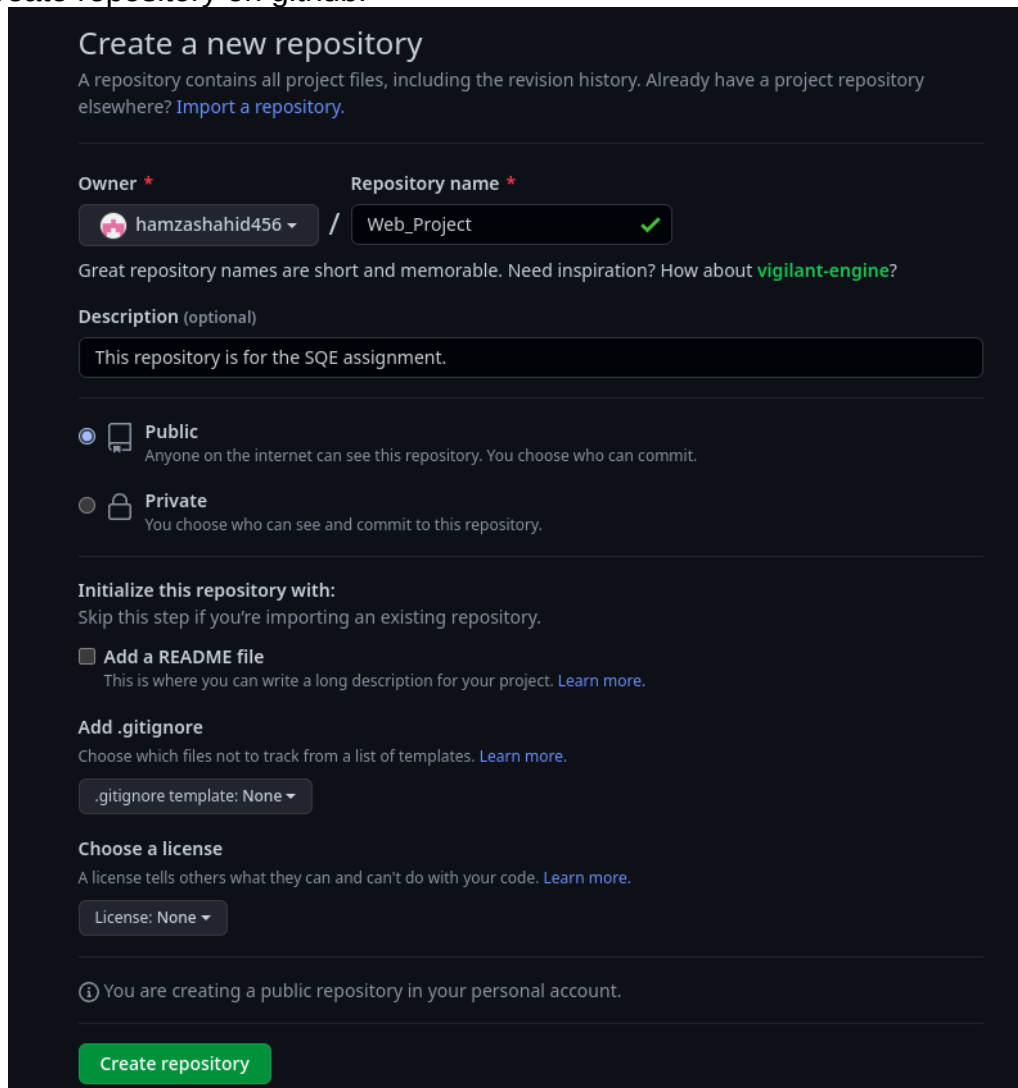
Hamza Shahid

20P-0117

BSSE-6A

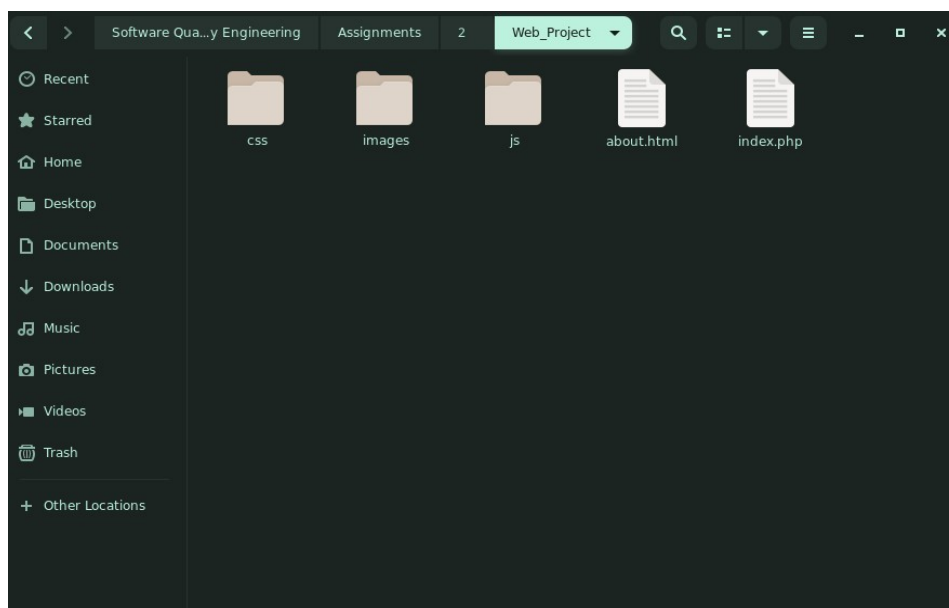
1. Create an online repository of your web project (css folder, js folder, images folder, (html, php files in main folder)) in github.

- Create repository on github.



The screenshot shows the GitHub 'Create a new repository' page. At the top, it says 'Create a new repository' and provides a brief explanation of what a repository is. Below this, there are two main input fields: 'Owner' and 'Repository name'. The 'Owner' field is set to 'hamzashahid456' and the 'Repository name' field is set to 'Web_Project', which has a green checkmark next to it. Below these fields, there is a note about repository names being short and memorable, with a suggestion 'vigilant-engine?'. The 'Description (optional)' field contains the text 'This repository is for the SQE assignment.'. There are two radio buttons for visibility: 'Public' (selected) and 'Private'. Below this, there is a section 'Initialize this repository with:' with a checkbox for 'Add a README file'. There is also a section for 'Add .gitignore' with a dropdown menu set to 'None'. A 'Choose a license' section is also present with a 'License: None' dropdown. At the bottom, there is a green 'Create repository' button.

- Create folders and files in local machine as required.



- Upload files and folders by terminal commands.

```
hamza@hamza-Lenovo-ideapad-320-15ABR: ~/Docume...
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Documents/Semester no.6/Software Quality Engineering/Assignments/2/Web_Project$ git init
Initialized empty Git repository in /home/hamza/Documents/Semester no.6/Software Quality Engineering/Assignments/2/Web_Project/.git/
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Documents/Semester no.6/Software Quality Engineering/Assignments/2/Web_Project$ git add .
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Documents/Semester no.6/Software Quality Engineering/Assignments/2/Web_Project$ git commit -m "Uploading files/folders to the repository"
[master (root-commit) 24af6f2] Uploading files/folders to the repository
 5 files changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 about.html
 create mode 100644 css/style.css
 create mode 100644 images/Screenshot from 2023-03-20 15-23-59.png
 create mode 100644 index.php
 create mode 100644 js/functions.js
```

```
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Documents/Semester no.6/Software Quality Engineering/Assignments/2/Web_Project$ git remote add origin https://github.com/hamzashahid456/Web_Project.git
```

```
Engineering/Assignments/2/Web_Project$ git push origin master
Username for 'https://github.com': hamzashahid456
Password for 'https://hamzashahid456@github.com':
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 4 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (7/7), 123.80 KiB | 11.25 MiB/s, done.
Total 7 (delta 0), reused 0 (delta 0)
remote:
remote: Create a pull request for 'master' on GitHub by visiting:
remote:   https://github.com/hamzashahid456/Web_Project/pull/new/master
remote:
To https://github.com/hamzashahid456/Web_Project.git
 * [new branch]      master -> master
```

- You can see your files uploaded to github.

The screenshot shows the GitHub interface for a repository named 'Web_Project' by user 'hamzashahid456'. The repository is public. The 'Code' tab is selected, showing a commit history table. The commit is titled 'hamza456 Uploading files/folders to the repository' with commit hash '24af6f2' and was made '19 minutes ago'. The table lists the files included in the commit: 'css', 'images', 'js', 'about.html', and 'index.php'. Below the table, there is a prompt to 'Add a README' to help people understand the project.

File	Commit	Time
css	Uploading files/folders to the repository	19 minutes ago
images	Uploading files/folders to the repository	19 minutes ago
js	Uploading files/folders to the repository	19 minutes ago
about.html	Uploading files/folders to the repository	19 minutes ago
index.php	Uploading files/folders to the repository	19 minutes ago

2. Share link.

- https://github.com/hamzashahid456/Web_Project.git

3. Must use gitbash

4. Clone it to your desktop using git app to make a local copy. using gitbash.

```
hamza@hamza-Lenovo-ideapad-320-15ABR: ~/Desktop
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop$ git clone https://github.com/hamzashahid456/Web_Project.git
Cloning into 'Web_Project'...
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 7 (delta 0), reused 7 (delta 0), pack-reused 0
Unpacking objects: 100% (7/7), 123.78 KiB | 12.00 KiB/s, done.
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop$
```

5. Create a new branch called "feature" using the git branch command.

6. Switch to the "feature" branch using the git checkout command.

7. List all content in directory using gitbash.

8. Create a new file called learn_yourollnumber.php using gitbash.

```
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$ git branch feature
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$ git checkout -b feature
fatal: A branch named 'feature' already exists.
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$ ls
about.html  css  images  index.php  js
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$ touch learn_P20-0117.php
```

9. In file write code to echo your name, using gitbash.

```
GNU nano 4.8 learn_P20-0117.php Modified
<?php
echo "Hamza Shahid";
?>
```

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Paste Text ^T To Spell ^_ Go To Line

10. Show that initially changes are untracked. using gitbash.

```
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$ 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)
       learn_P20-0117.php

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

11. Then show they are tracked but not committed. using gitbash.

```
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$ git add .
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$ git status
On branch master
Your branch is up to date with 'origin/master'.

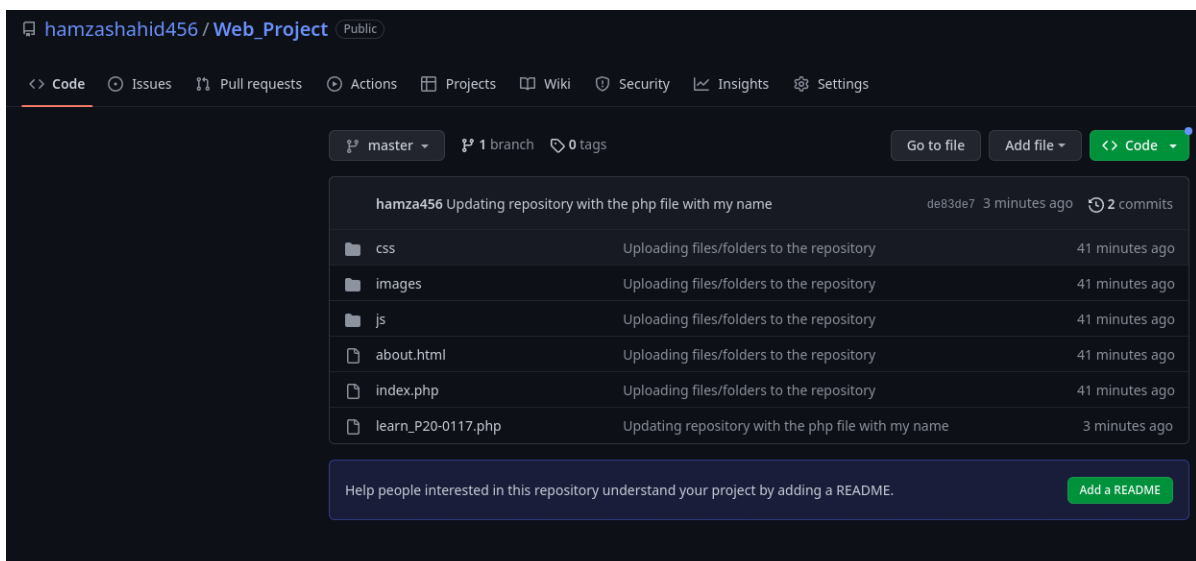
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
       new file:   learn_P20-0117.php
```

12. Then commit them, using appropriate message, using gitbash.

```
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$ git commit -m "Updating repository with the php file with my name"
[master de83de7] Updating repository with the php file with my name
1 file changed, 3 insertions(+)
create mode 100644 learn_P20-0117.php
```

13. Then make sure these changes happen in master branch in online repository using gitbash.

14. Show the changes in online repository, screen shot is sufficient.

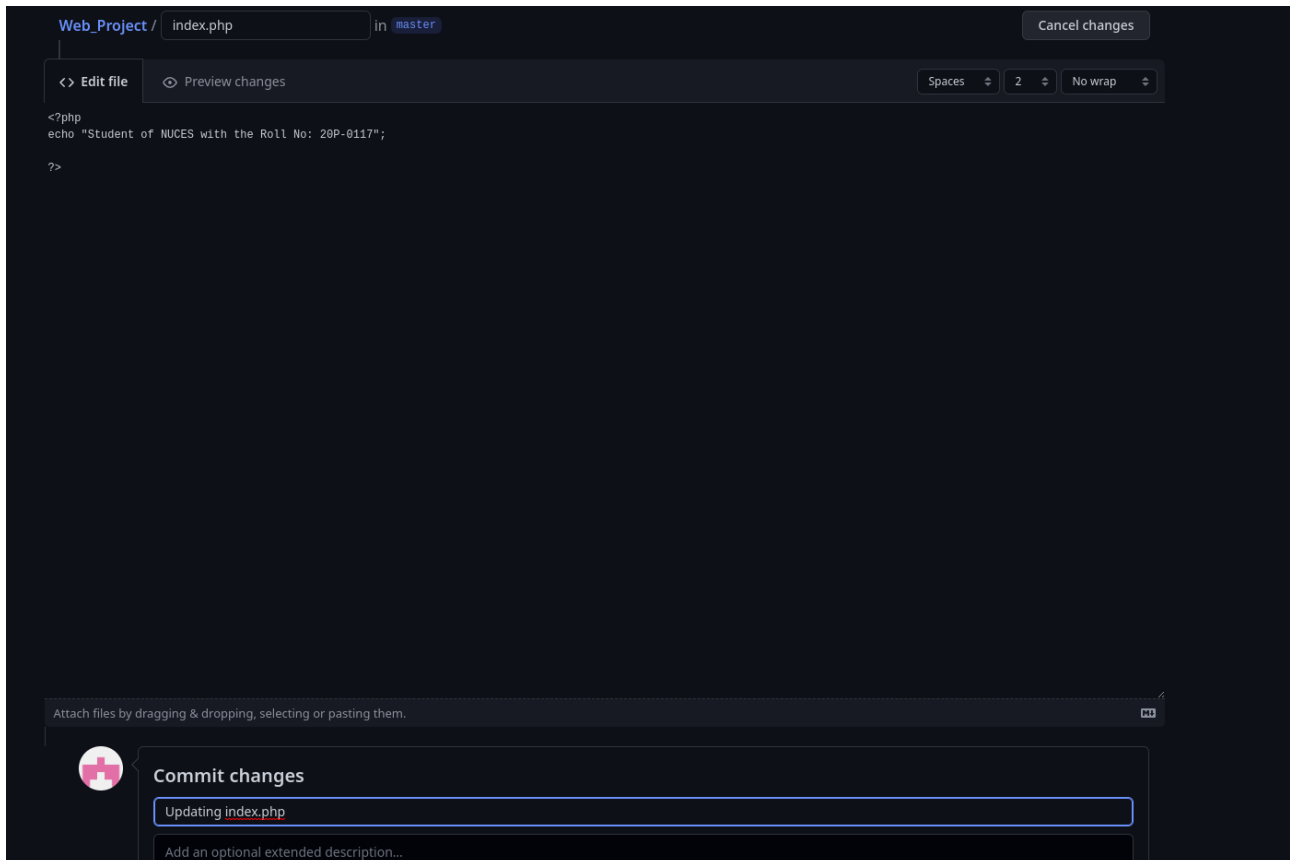


The screenshot shows the GitHub interface for a repository named 'Web_Project' by user 'hamzashahid456'. The repository is public. The main navigation bar includes links for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. Below the navigation bar, there are buttons for 'master' (selected), '1 branch', and '0 tags'. There are also buttons for 'Go to file', 'Add file', and 'Code'. The commit history shows a recent commit by 'hamza456' with the message 'Updating repository with the php file with my name' (commit hash de83de7, 3 minutes ago, 2 commits). The commit details show a list of files and folders being uploaded to the repository:

File/Folder	Action	Time
css	Uploading files/folders to the repository	41 minutes ago
images	Uploading files/folders to the repository	41 minutes ago
js	Uploading files/folders to the repository	41 minutes ago
about.html	Uploading files/folders to the repository	41 minutes ago
index.php	Uploading files/folders to the repository	41 minutes ago
learn_P20-0117.php	Updating repository with the php file with my name	3 minutes ago

At the bottom, there is a prompt to 'Help people interested in this repository understand your project by adding a README.' with a button to 'Add a README'.

15. Now make changes in online repository directly in index file.



16. Then pull it. using gitbash.

```
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$ git pull origin master
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 710 bytes | 10.00 KiB/s, done.
From https://github.com/hamzashahid456/Web_Project
 * branch                master       -> FETCH_HEAD
    de83de7..0db946a      master       -> origin/master
Updating de83de7..0db946a
Fast-forward
 index.php | 3 +++
 1 file changed, 3 insertions(+)
```

17. See the changes. using gitbash.

```
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$ git log --name-status -2
commit 0db946aa0fb531b1f38a1ac4ffcf7111c19a78e9 (HEAD -> master, origin/master, origin/HEAD)
Author: Hamza Shahid <72216229+hamzashahid456@users.noreply.github.com>
Date: Sun Mar 26 23:47:57 2023 +0500

    Updating index.php file

M       index.php

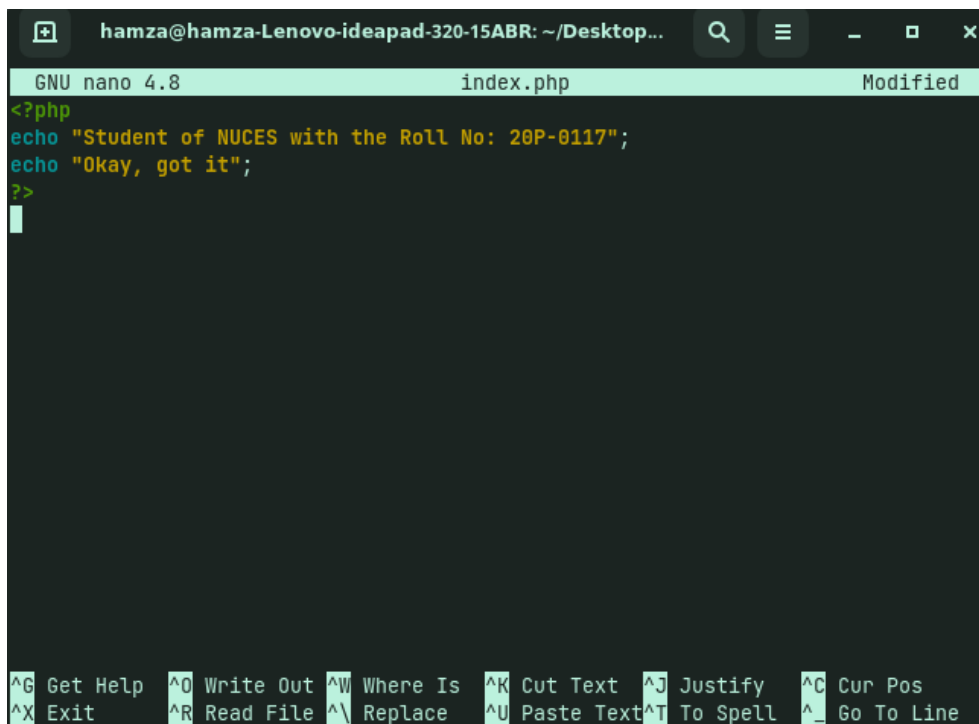
commit de83de79cafb918e031e76ad079df9ce7264944a
Author: hamza456 <hamzashahid4566@gmail.com>
Date: Sun Mar 26 23:40:02 2023 +0500

    Updating repository with the php file with my name

A       learn_P20-0117.php
```

18. Make changes to file content using using gitbash.

- By adding one more line in **index.php** file.



```
hamza@hamza-Lenovo-ideapad-320-15ABR: ~/Desktop...
GNU nano 4.8 index.php Modified
<?php
echo "Student of NUCES with the Roll No: 20P-0117";
echo "Okay, got it";
?>
```

19. Commit the changes directly using gitbash.

```
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$ git add index.php
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$ git commit -m "Changes in index.php from local repository"
[master 1d0bfcb] Changes in index.php from local repository
1 file changed, 1 insertion(+)
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$ git push origin master
Username for 'https://github.com': hamzashahid456
Password for 'https://hamzashahid456@github.com':
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 362 bytes | 362.00 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/hamzashahid456/Web_Project.git
0db946a..1d0bfcb master -> master
```

20. Use the git merge command to merge the "feature" branch into the "master" branch.
21. Resolve any conflicts that may arise during the merge process.

```
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$ git merge feature
Already up to date.
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$
```

22. Use git log command.
23. Use clear command.

```
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$ git log
commit 1d0bfcbb2ccb6c6f6cedf13ec796128c6e410ede (HEAD -> master, origin/master, origin/HEAD)
Author: hamza456 <hamzashahid456@gmail.com>
Date: Sun Mar 26 23:56:26 2023 +0500

    Changes in index.php from local repository

commit 0db946aa0fb531b1f38a1ac4ffcf7111c19a78e9
Author: Hamza Shahid <72216229+hamzashahid456@users.noreply.github.com>
Date: Sun Mar 26 23:47:57 2023 +0500

    Updating index.php file

commit de83de79cafb918e031e76ad079df9ce7264944a
Author: hamza456 <hamzashahid456@gmail.com>
Date: Sun Mar 26 23:40:02 2023 +0500

    Updating repository with the php file with my name

commit 24af6f20f58f6b0ee5206d07b2b4fd812dc3fcee (feature)
Author: hamza456 <hamzashahid456@gmail.com>
Date: Sun Mar 26 23:01:56 2023 +0500

...skipping...
commit 1d0bfcbb2ccb6c6f6cedf13ec796128c6e410ede (HEAD -> master, origin/master, origin/HEAD)
Author: hamza456 <hamzashahid456@gmail.com>
Date: Sun Mar 26 23:56:26 2023 +0500

    Changes in index.php from local repository

commit 0db946aa0fb531b1f38a1ac4ffcf7111c19a78e9
Author: Hamza Shahid <72216229+hamzashahid456@users.noreply.github.com>
Date: Sun Mar 26 23:47:57 2023 +0500

    Updating index.php file

commit de83de79cafb918e031e76ad079df9ce7264944a
Author: hamza456 <hamzashahid456@gmail.com>
Date: Sun Mar 26 23:40:02 2023 +0500

    Updating repository with the php file with my name
```

```
commit 24af6f20f58f6b0ee5206d07b2b4fd812dc3fcee (feature)
Author: hamza456 <hamzashahid456@gmail.com>
Date: Sun Mar 26 23:01:56 2023 +0500

    Uploading files/folders to the repository
...skipping...
commit 1d0bfcbb2ccb6c6f6cedf13ec796128c6e410ede (HEAD -> master, origin/master, origin/HEAD)
Author: hamza456 <hamzashahid456@gmail.com>
Date: Sun Mar 26 23:56:26 2023 +0500

    Changes in index.php from local repository

commit 0db946aa0fb531b1f38a1ac4ffcf7111c19a78e9
Author: Hamza Shahid <72216229+hamzashahid456@users.noreply.github.com>
Date: Sun Mar 26 23:47:57 2023 +0500

    Updating index.php file

commit de83de79cafb918e031e76ad079df9ce7264944a
Author: hamza456 <hamzashahid456@gmail.com>
Date: Sun Mar 26 23:40:02 2023 +0500

    Updating repository with the php file with my name

commit 24af6f20f58f6b0ee5206d07b2b4fd812dc3fcee (feature)
Author: hamza456 <hamzashahid456@gmail.com>
Date: Sun Mar 26 23:01:56 2023 +0500

    Uploading files/folders to the repository
~
hamza@hamza-Lenovo-ideapad-320-15ABR:~/Desktop/Web_Project$
```


Q2 Write in your own words what is branching, difference between merge, push and pull.

Branching can be used when you are developing new version of software and you don't want to lose the previous version. It can be used for stability.

=> **Pull** command is to download repository files to local machine with the changes done.

=> **Push** command is to upload files / folders to the github repository.

=> **Merge** is used to add changes from branch to another.

Q3 Can I use the "clone" button that I see on my GitHub repository to clone my repository to my machine?

Yes, it can be used as it will download the repository files as zip file.

Q4 How to compare two files using git bash?

git diff command can be used to compare two files, commits or even branches.