Assignment 1. Initialize a new git repository in a directory of your choice . Add a simple text file to the repository and make the first commit.

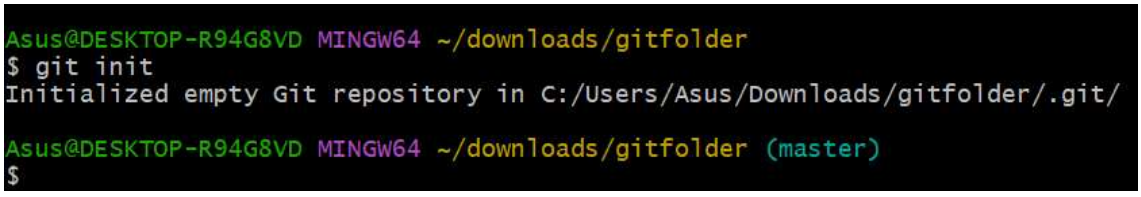
Answer :
Step 1 : Open Git Bash

Step 2: Navigate to the desired directory

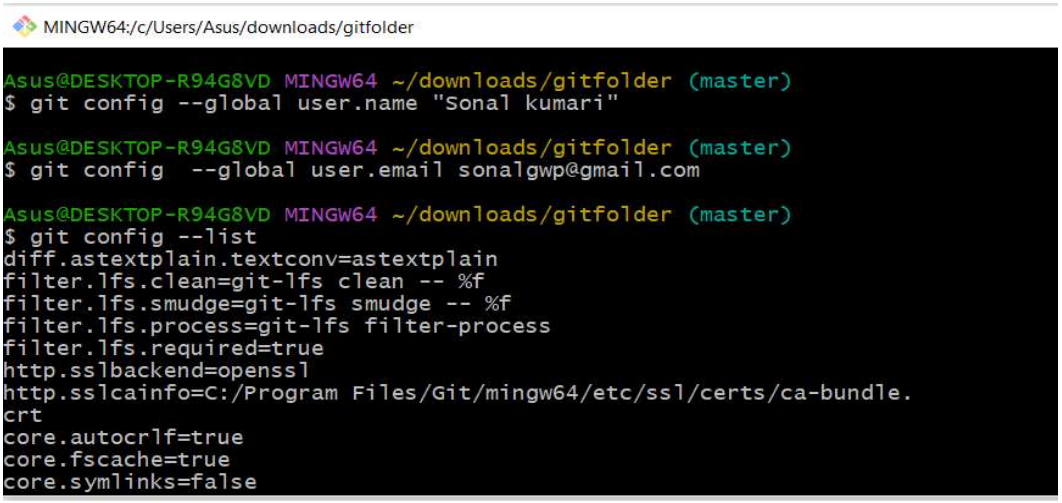
In the Git Bash terminal, navigate to the directory where you want to create your new Git repository.

Step 3: Repository Initialization

Using the command "git init" we can initialize our Git Repository.



Step 4 : Git configuration.



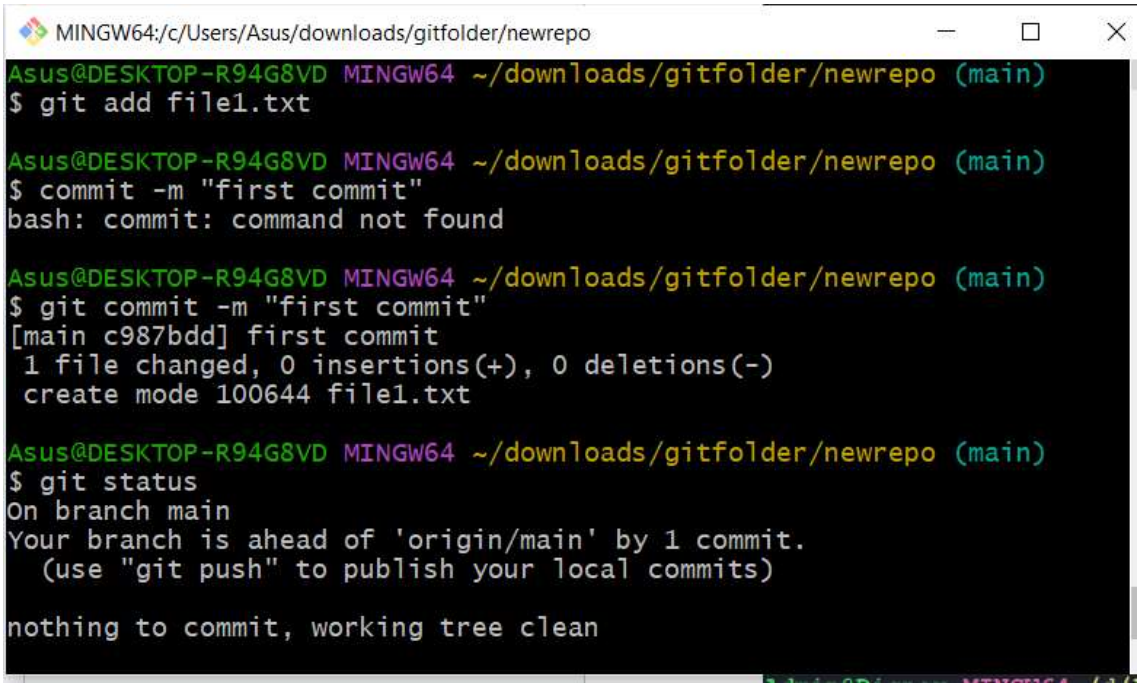
Step 5: Repository cloning

In this step we clone the Repository using command “git clone <link of repo>

Step 6: Text file creation

We can create a text file using the command “touch file1.txt”.

Step 7: Add the file and commit the changes to the repository;



Step 8: push the file into the repository

https://github.com/Kumari21sonal/newrepo.git

Assignment 2: Branch Creation and switching
Create a new branch named 'feature' and switch to it. Make changes in the 'feature' branch and commit them.

Answer:

Step 1: Create a new branch called ‘feature’ using the command “git branch feature”

```
Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo (main)
$ git branch feature

Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo (main)
$ git branch
  feature
* main
```

Step 2: Switch to the newly created ‘feature’ branch using command “git checkout feature”

```
Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo (main)
$ git checkout feature
Switched to branch 'feature'
```

Step 3 : Make changes in the ‘feature’ branch , add some changes in the code or add some new file.

```
Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo (feature)
$ echo " I am adding changes to feature branch." > NewFeature.txt
```

Step 4: once the changes are done,move the change to staging area

```
Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo (feature)
$ git add .
warning: in the working copy of 'NewFeature.txt', LF will be replaced
by CRLF the next time Git touches it
```

Step 5: Check Status and Commit the changes to the ‘feature’ branch using the command “git commit -m “taking some text or message””

```
Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo (feature)
$ git status
On branch feature
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   NewFeature.txt


Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo (feature)
$ git commit -m "newfeature.txt to feature branch."
[feature 69d9610] newfeature.txt to feature branch.
 1 file changed, 1 insertion(+)
 create mode 100644 NewFeature.txt
```

Step 6: Now run the “git log” command to verify that a commit has been created and look into the changes.

```
Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo (feature)
$ git log
commit 69d9610d0f801e1e4385019a19ecaed2c2623c97 (HEAD -> feature)
Author: Sonal kumari <sonalgwp@gmail.com>
Date:   Sun May 19 14:28:03 2024 +0530

    newfeature.txt to feature branch.

commit c987bdd5816b9f781dd4ab7fe3f337565743fff4 (origin/main, origin/HEAD, main)
Author: Sonal kumari <sonalgwp@gmail.com>
Date:   Sun May 19 12:19:45 2024 +0530

    first commit

commit 4fb7f1b6ec1cd9895f7948ab0a969b09017c815b
Author: Sonal kumari <91534751+Kumari21sonal@users.noreply.github.com>
Date:   Sun May 19 11:50:46 2024 +0530

    Initial commit
```

Assignment 3: Create a 'hotfix' branch to fix an issue in the main code. Merge the 'hotfix' branch into 'main' ensuring that the issue is resolved.

Answer:
Step 1 : Create a branch Hotfix using command “git branch hotfix”.

```
Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo (feature)
$ git branch hotfix
```

Step 2: Run “git branch” to see all the branches exists in ‘newrepo’ repository

```
Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo (feature)
$ git branch
* feature
  hotfix
  main
```

Step 3: Change the branch to hotfix using command “git checkout hotfix”.

```
Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo (feature)
$ git checkout hotfix
Switched to branch 'hotfix'
```

Step 4:Make some changes in code and then move the change to staging area using “git add .” command.

```
Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo (hotfix)
$ git add .
warning: in the working copy of 'NewFeature.txt', LF will be replaced by CRLF t
he next time Git touches it
```

Step 5: move the changes from staging area to local repository

```
Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo (hotfix)
$ git commit -m "I have done changes"
[hotfix 9838a15] I have done changes
 1 file changed, 2 insertions(+)
```

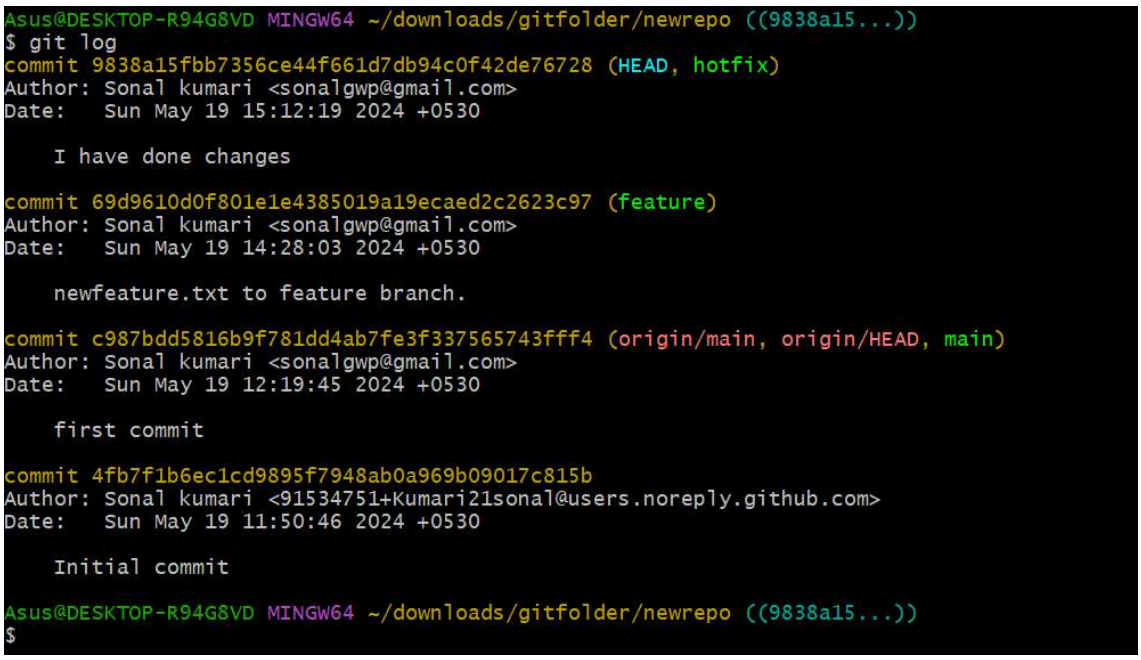
Step 6: going back to origin/master branch using command “git checkout origin”.

```
Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo (hotfix)
$ git checkout origin
Note: switching to 'origin'.
```

Step 7: Merge hotfix branch with origin branch using command “git merge hotfix”

```
Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo ((c987bdd...))
$ git merge hotfix
Updating c987bdd..9838a15
Fast-forward
 NewFeature.txt | 3 +++
 1 file changed, 3 insertions(+)
 create mode 100644 NewFeature.txt
```

Step 8: Finally, verify the changes you have made to repository using command “git log”


Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo ((9838a15...))
$ git log
commit 9838a15fbb7356ce44f661d7db94c0f42de76728 (HEAD, hotfix)
Author: Sonal kumari <sonalgwp@gmail.com>
Date: Sun May 19 15:12:19 2024 +0530
I have done changes
commit 69d9610d0f801e1e4385019a19ecaed2c2623c97 (feature)
Author: Sonal kumari <sonalgwp@gmail.com>
Date: Sun May 19 14:28:03 2024 +0530
newfeature.txt to feature branch.
commit c987bdd5816b9f781dd4ab7fe3f337565743fff4 (origin/main, origin/HEAD, main)
Author: Sonal kumari <sonalgwp@gmail.com>
Date: Sun May 19 12:19:45 2024 +0530
first commit
commit 4fb7f1b6ec1cd9895f7948ab0a969b09017c815b
Author: Sonal kumari <91534751+Kumari21sonal@users.noreply.github.com>
Date: Sun May 19 11:50:46 2024 +0530
Initial commit
Asus@DESKTOP-R94G8VD MINGW64 ~/downloads/gitfolder/newrepo ((9838a15...))
$