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BE623 – Biocomputing

Sem1 2025-2026

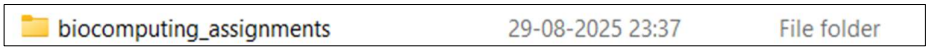
Assignment 4: Git and GitHub

Link to GitHub repository: https://github.com/Sandhya1142/BE623_Biocomputing/

1. Start by creating a new local repository for your course work.

    a. Name the folder biocomputing_assignments.

```
sandh@Sandhya MINGW64 ~
$ pwd
/c/Users/sandh

sandh@Sandhya MINGW64 ~
$ mkdir biocomputing_assignments
```

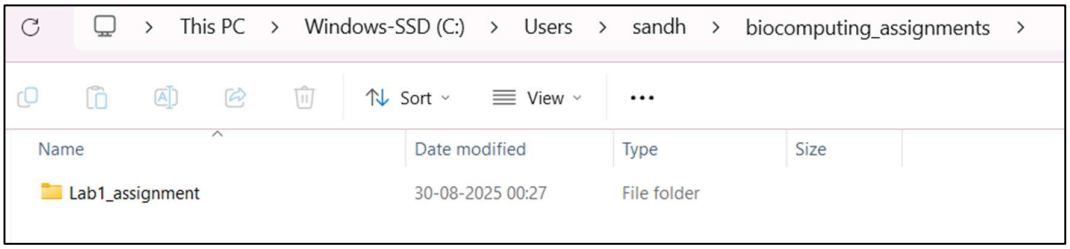


pwd command: Print working directory – used for displaying/tracing the absolute path to the current directory in which we are present

mkdir command: used for creating new folder

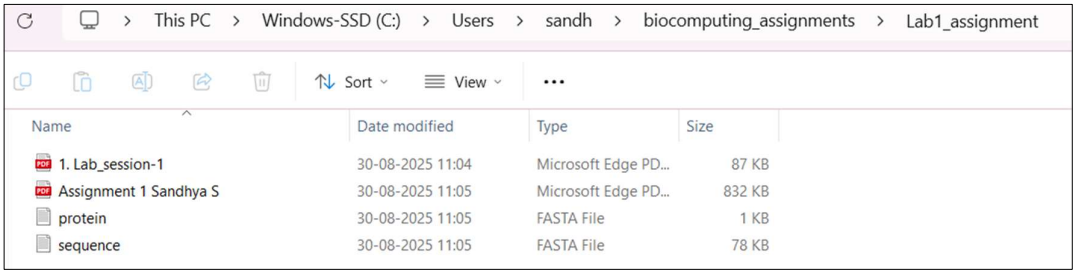
2. Inside this folder, add a new sub-folder for Lab-1 Assignment.

```
sandh@Sandhya MINGW64 ~
$ cd ./biocomputing_assignments/

sandh@Sandhya MINGW64 ~/biocomputing_assignments
$ mkdir Lab1_assignment
```



a. Place the given question file and your answer file in this sub-folder.

```
sandh@Sandhya MINGW64 ~/biocomputing_assignments
$ cd ./Lab1_assignment/

sandh@Sandhya MINGW64 ~/biocomputing_assignments/Lab1_assignment
$ cp -r /c/Users/sandh/OneDrive/Desktop/Lab1_assignment/* ./
```



cd command: to change directory

cp command: Used for copying the files from one location to another

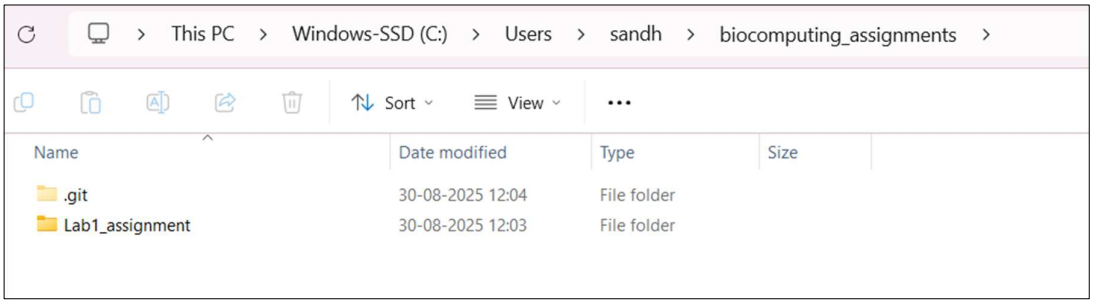
b. Track these files and commit them to your local repository.

```
sandh@Sandhya MINGW64 ~/biocomputing_assignments/Lab1_assignment
$ cd ../

sandh@Sandhya MINGW64 ~/biocomputing_assignments
$ pwd
/c/Users/sandh/biocomputing_assignments

sandh@Sandhya MINGW64 ~/biocomputing_assignments
$ git init
Initialized empty Git repository in C:/Users/sandh/biocomputing_assignments/.g
it/
```

```
sandh@Sandhya MINGW64 ~/biocomputing_assignments (master)
$ git add Lab1_assignment/
warning: in the working copy of 'Lab1_assignment/protein.fasta', LF will be replaced b
y CRLF the next time Git touches it
warning: in the working copy of 'Lab1_assignment/sequence.fasta', LF will be replaced
by CRLF the next time Git touches it
```

git init command: used for initializing and create an empty git repository

git add command: used for tracking files. This stages the changes to be included in the next commit




```
sandh@Sandhya MINGW64 ~/biocomputing_assignments (master)
$ git commit -m "Add Lab_assignment1"
[master (root-commit) 87ffb99] Add Lab_assignment1
 4 files changed, 1130 insertions(+)
 create mode 100644 Lab1_assignment/1. Lab_session-1.pdf
 create mode 100644 Lab1_assignment/Assignment 1 Sandhya S.pdf
 create mode 100644 Lab1_assignment/protein.fasta
 create mode 100644 Lab1_assignment/sequence.fasta
```

git commit command: after staging changes using git add command, this command is used to capture a snapshot of currently staged changes. These changes are recorded in the local repository.

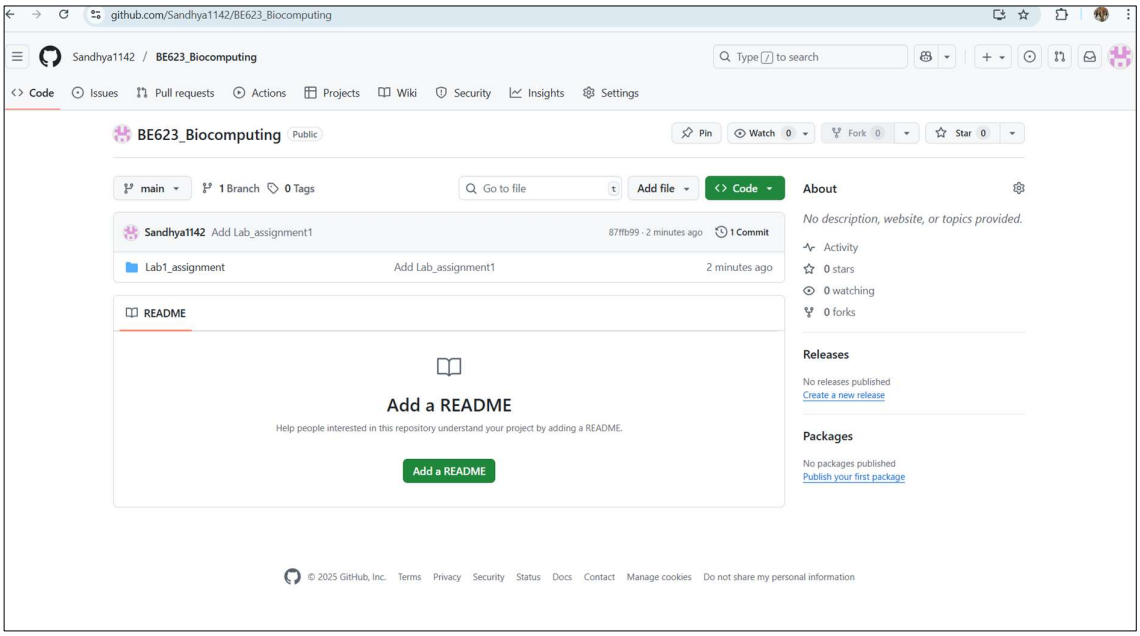
c. Push the changes to a new remote repository on GitHub called BE623_biocomputing.

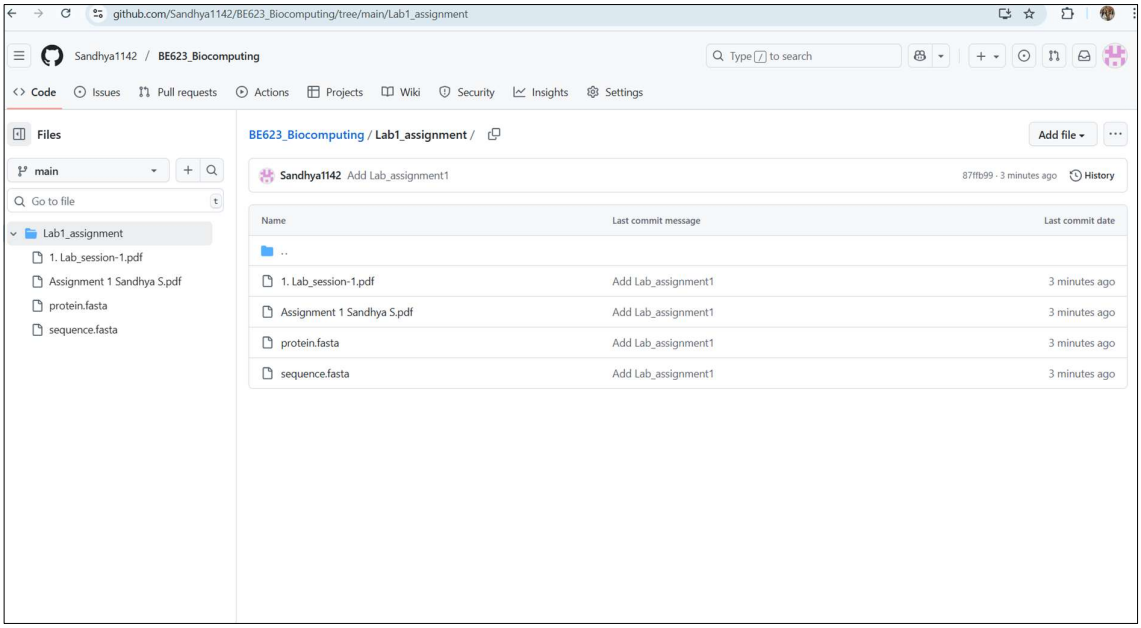
```
sandh@Sandhya MINGW64 ~/biocomputing_assignments (master)
$ git remote add origin git@github.com:Sandhya1142/BE623_Biocomputing.git

sandh@Sandhya MINGW64 ~/biocomputing_assignments (master)
$ git branch -M main

sandh@Sandhya MINGW64 ~/biocomputing_assignments (main)
$ git push -u origin main
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 12 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (7/7), 808.09 KiB | 2.61 MiB/s, done.
Total 7 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:Sandhya1142/BE623_Biocomputing.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.
```

git remote add origin command: this establishes a connection between the local repository and the remote git repository. This enables us to use git pull and push commands further.

git branch -M command: to rename a git branch locally. (A branch is a separate workspace which enables us to make changes, experiment with new ideas, develop new features without affecting the main project)

git push command: to upload the local repository files to the remote git repository

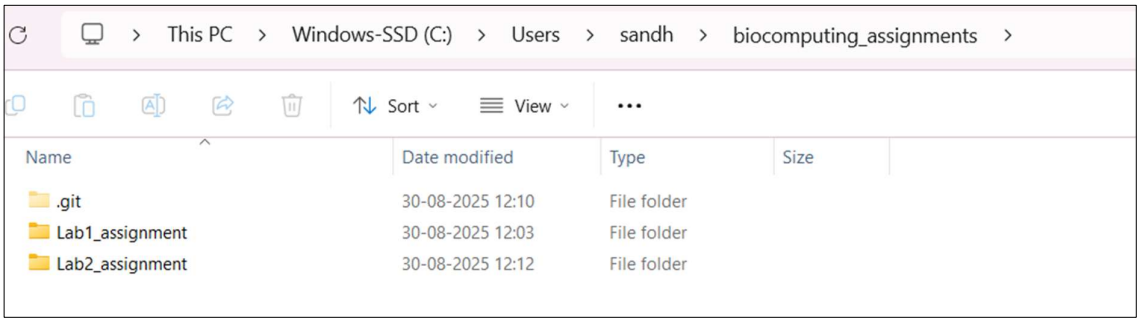




3. Next, add a second sub-folder for Lab-2 Assignment inside your repository.

```
sandh@Sandhya MINGW64 ~/biocomputing_assignments (main)
$ mkdir Lab2_assignment
```

mkdir command: used for creating new folder

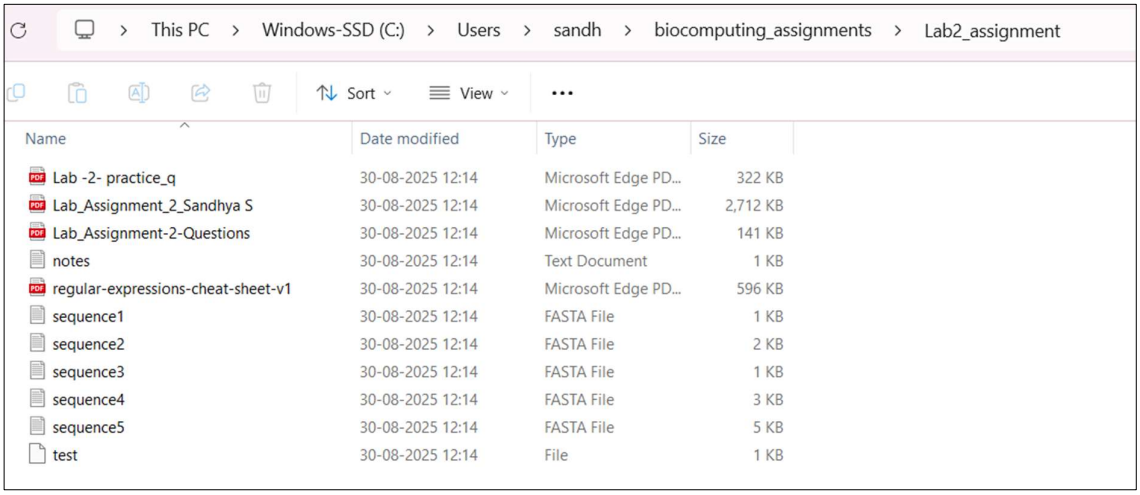


a. Copy the question and answer files into this folder.

```
sandh@Sandhya MINGW64 ~/biocomputing_assignments (main)
$ cd ./Lab2_assignment/

sandh@Sandhya MINGW64 ~/biocomputing_assignments/Lab2_assignment (main)
$ cp -r /c/Users/sandh/OneDrive/Desktop/Lab2_assignment/* ./
```

cd command: to change directory

cp command: Used for copying the files from one location to another



b. Check the repository status to confirm the new files are untracked.

```
sandh@Sandhya MINGW64 ~/biocomputing_assignments/Lab2_assignment (main)
$ cd ../

sandh@Sandhya MINGW64 ~/biocomputing_assignments (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        Lab2_assignment/

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

git status command: it shows the status of the working directory- in which branch we are present, if files are tracked or untracked, and if tracked, if are they committed and ready to be staged.

c. Track and commit these files.

```
sandh@Sandhya MINGW64 ~/biocomputing_assignments (main)
$ git add Lab2_assignment/
warning: in the working copy of 'Lab2_assignment/notes.txt', LF will be replaced by CRLF the n
ext time Git touches it
warning: in the working copy of 'Lab2_assignment/sequence1.fasta', LF will be replaced by CRLF
 the next time Git touches it
warning: in the working copy of 'Lab2_assignment/sequence2.fasta', LF will be replaced by CRLF
 the next time Git touches it
warning: in the working copy of 'Lab2_assignment/sequence3.fasta', LF will be replaced by CRLF
 the next time Git touches it
warning: in the working copy of 'Lab2_assignment/sequence4.fasta', LF will be replaced by CRLF
 the next time Git touches it
warning: in the working copy of 'Lab2_assignment/sequence5.fasta', LF will be replaced by CRLF
 the next time Git touches it
warning: in the working copy of 'Lab2_assignment/test', LF will be replaced by CRLF the next t
ime Git touches it
```

```
sandh@Sandhya MINGW64 ~/biocomputing_assignments (main)
$ git commit -m "Add Lab_assignment2"
[main 28edd6c] Add Lab_assignment2
 11 files changed, 6339 insertions(+)
 create mode 100644 Lab2_assignment/Lab -2- practice_q.pdf
 create mode 100644 Lab2_assignment/Lab_Assignment-2-Questions.pdf
 create mode 100644 Lab2_assignment/Lab_Assignment_2_Sandhya S.pdf
 create mode 100644 Lab2_assignment/notes.txt
 create mode 100644 Lab2_assignment/regular-expressions-cheat-sheet-v1.pdf
 create mode 100644 Lab2_assignment/sequence1.fasta
 create mode 100644 Lab2_assignment/sequence2.fasta
 create mode 100644 Lab2_assignment/sequence3.fasta
 create mode 100644 Lab2_assignment/sequence4.fasta
 create mode 100644 Lab2_assignment/sequence5.fasta
 create mode 100644 Lab2_assignment/test
```

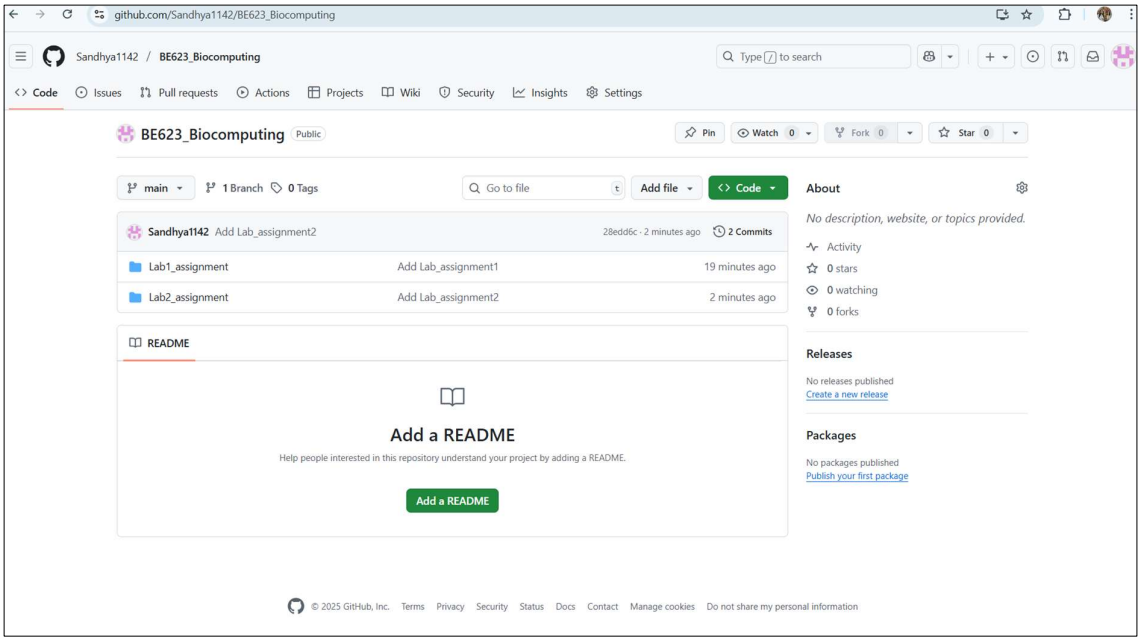
git add command: used for tracking files. This stages the changes to be included in the next commit

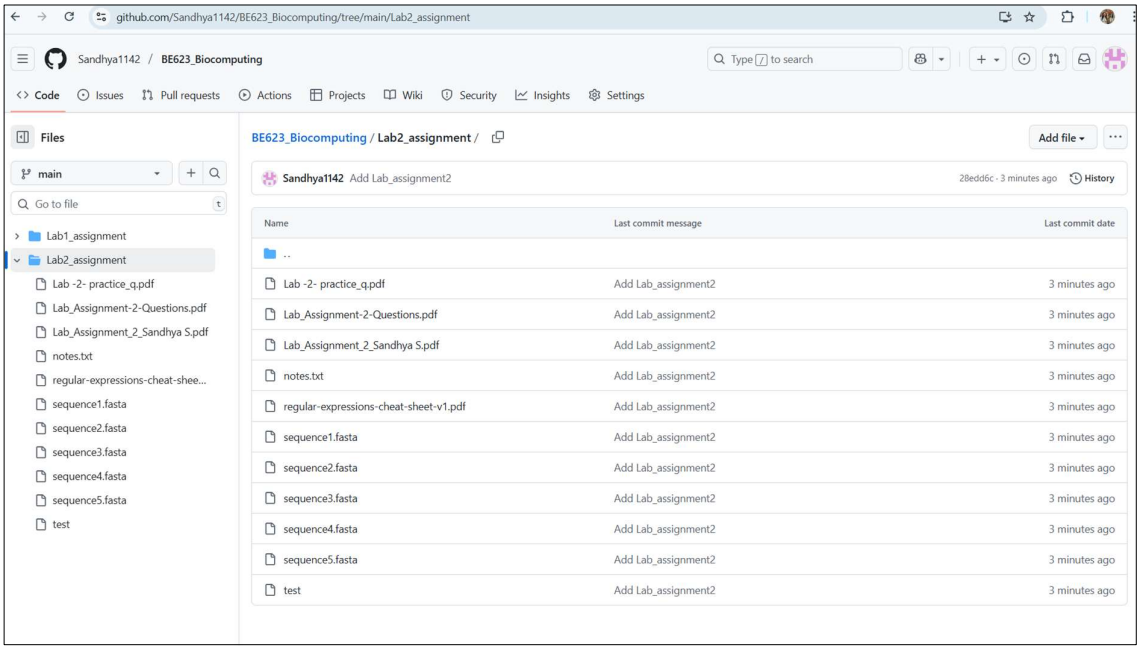
git commit command: after staging changes using git add command, this command is used to capture a snapshot of currently staged changes. These changes are recorded in the local repository.

d. Push the updated repository to GitHub.

```
sandh@Sandhya MINGW64 ~/biocomputing_assignments (main)
$ git push -u origin main
branch 'main' set up to track 'origin/main'.
Everything up-to-date
```

git push command: to upload the local repository files to the remote git repository



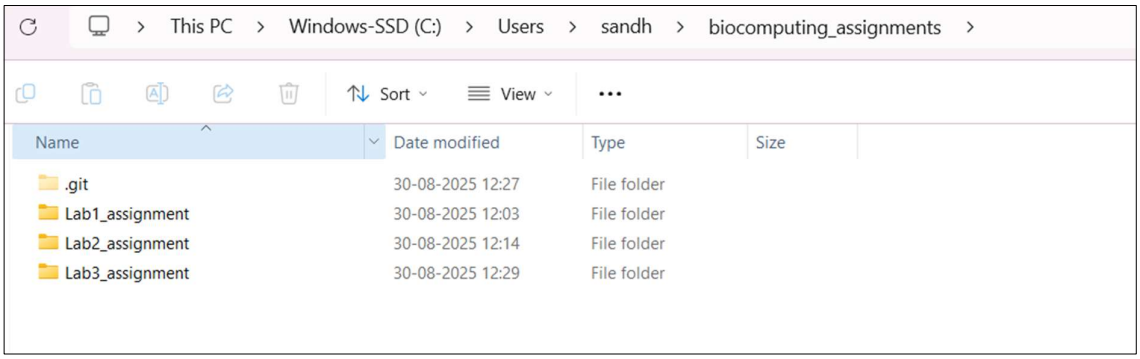


4. Repeat the process for Lab-3 Assignment.

a. Create a new sub-folder named lab-3_assignment.

```
sandh@Sandhya MINGW64 ~/biocomputing_assignments (main)
$ mkdir Lab3_assignment
```

mkdir command: used for creating new folder

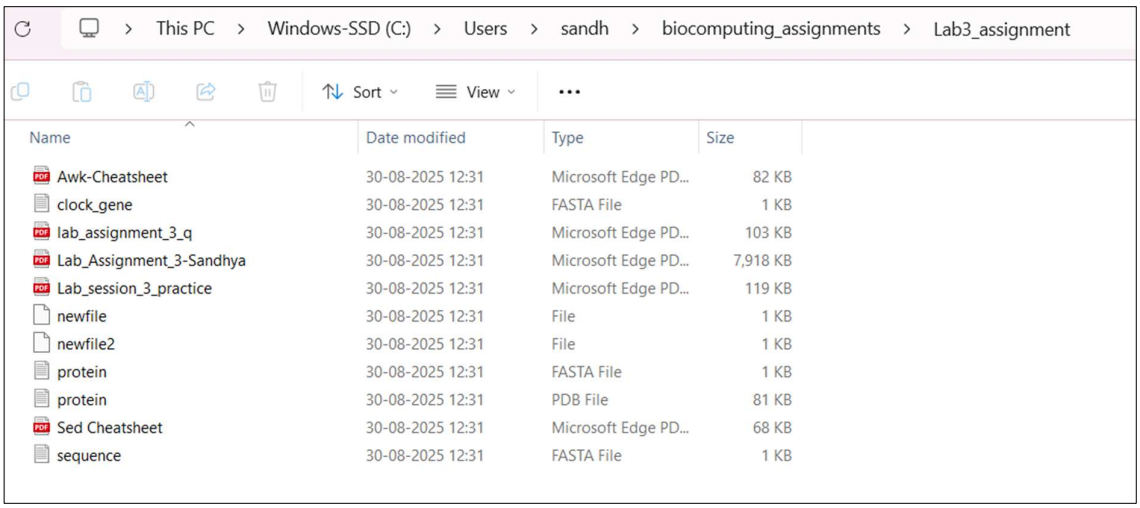


b. Add the corresponding question and answer files.

```
sandh@Sandhya MINGW64 ~/biocomputing_assignments (main)
$ cd ./Lab3_assignment/

sandh@Sandhya MINGW64 ~/biocomputing_assignments/Lab3_assignment (main)
$ cp -r /c/Users/sandh/OneDrive/Desktop/Lab3_assignment/* ./
```

cd command: to change directory

cp command: Used for copying the files from one location to another



c. Track and commit the files.

```
sandh@Sandhya MINGW64 ~/biocomputing_assignments/Lab3_assignment (main)
$ cd ../

sandh@Sandhya MINGW64 ~/biocomputing_assignments (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        Lab3_assignment/

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

git status command: it shows the status of the working directory- in which branch we are present, if files are tracked or untracked, and if tracked, if are they committed and ready to be staged.

```
sandh@Sandhya MINGW64 ~/biocomputing_assignments (main)
$ git add Lab3_assignment/
warning: in the working copy of 'Lab3_assignment/clock_gene.fasta', LF will be replaced by CRLF the
 next time Git touches it
warning: in the working copy of 'Lab3_assignment/newfile', LF will be replaced by CRLF the next tim
e Git touches it
warning: in the working copy of 'Lab3_assignment/newfile2', LF will be replaced by CRLF the next ti
me Git touches it
warning: in the working copy of 'Lab3_assignment/protein.fasta', LF will be replaced by CRLF the ne
xt time Git touches it
warning: in the working copy of 'Lab3_assignment/protein.pdb', LF will be replaced by CRLF the next
 time Git touches it
warning: in the working copy of 'Lab3_assignment/sequence.fasta', LF will be replaced by CRLF the n
ext time Git touches it
```

```
sandh@Sandhya MINGW64 ~/biocomputing_assignments (main)
$ git commit -m "Add Lab_assignment3"
[main f40b502] Add Lab_assignment3
 11 files changed, 1083 insertions(+)
 create mode 100644 Lab3_assignment/Awk-Cheatsheet.pdf
 create mode 100644 Lab3_assignment/Lab_Assignment_3-Sandhya.pdf
 create mode 100644 Lab3_assignment/Lab_session_3_practice.pdf
 create mode 100644 Lab3_assignment/Sed Cheatsheet.pdf
 create mode 100644 Lab3_assignment/clock_gene.fasta
 create mode 100644 Lab3_assignment/lab_assignment_3_q.pdf
 create mode 100644 Lab3_assignment/newfile
 create mode 100644 Lab3_assignment/newfile2
 create mode 100644 Lab3_assignment/protein.fasta
 create mode 100644 Lab3_assignment/protein.pdb
 create mode 100644 Lab3_assignment/sequence.fasta
```

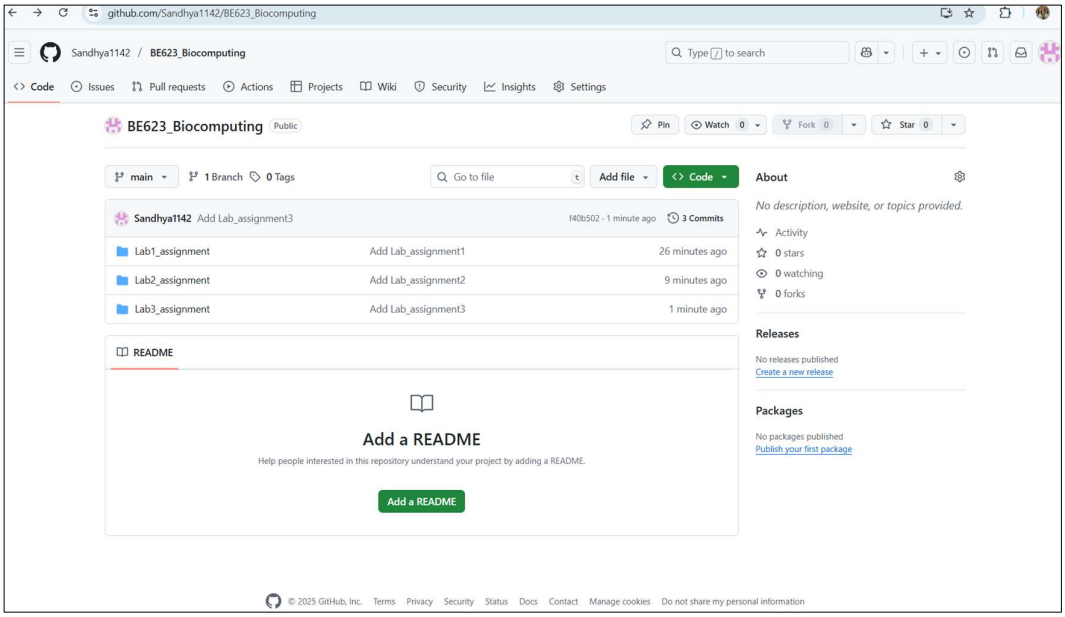
git add command: used for tracking files. This stages the changes to be included in the next commit

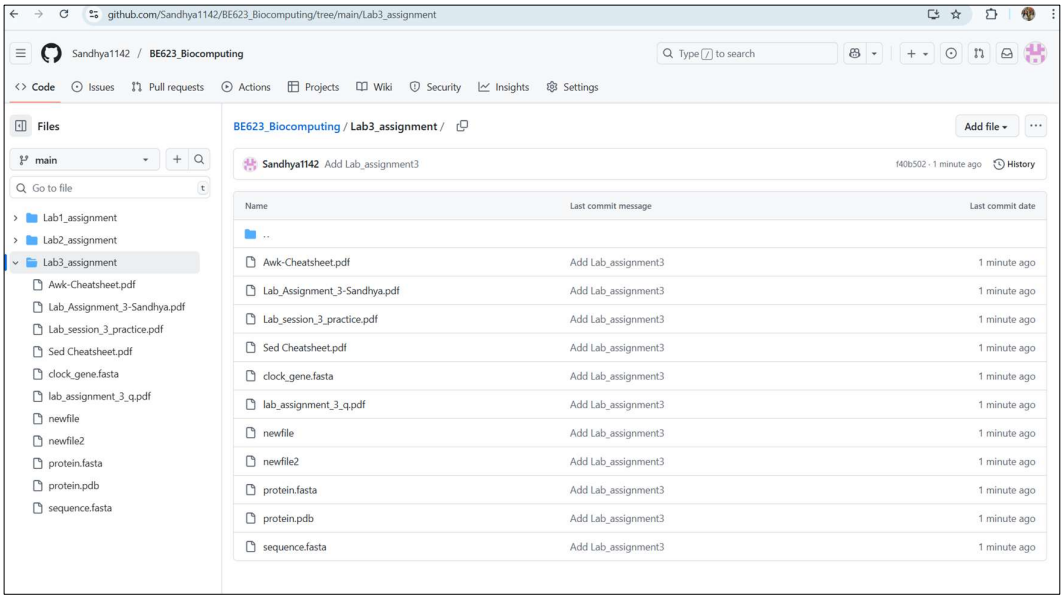
git commit command: after staging changes using git add command, this command is used to capture a snapshot of currently staged changes. These changes are recorded in the local repository.

d. Push the changes to your GitHub repository.

```
sandh@Sandhya MINGW64 ~/biocomputing_assignments (main)
$ git push -u origin main
Enumerating objects: 15, done.
Counting objects: 100% (15/15), done.
Delta compression using up to 12 threads
Compressing objects: 100% (14/14), done.
Writing objects: 100% (14/14), 6.83 MiB | 2.38 MiB/s, done.
Total 14 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:Sandhya1142/BE623_Biocomputing.git
   28edd6c..f40b502  main -> main
branch 'main' set up to track 'origin/main'.
```

git push command: to upload the local repository files to the remote git repository


github.com/Sandhya1142/BE623_Biocomputing
Sandhya1142 / BE623_Biocomputing
Type / to search
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
BE623_Biocomputing
Public
Pin
Watch 0
Fork 0
Star 0
main
1 Branch
0 Tags
Go to file
Add file
Code
About
No description, website, or topics provided.
Activity
0 stars
0 watching
0 forks
Releases
No releases published
Create a new release
Packages
No packages published
Publish your first package
Sandhya1142 Add Lab_assignment3
f40b502 · 1 minute ago
3 Commits
Lab1_assignment
Add Lab_assignment1
26 minutes ago
Lab2_assignment
Add Lab_assignment2
9 minutes ago
Lab3_assignment
Add Lab_assignment3
1 minute ago
README
Add a README
Help people interested in this repository understand your project by adding a README.
Add a README
© 2025 GitHub, Inc.
Terms
Privacy
Security
Status
Docs
Contact
Manage cookies
Do not share my personal information


github.com/Sandhya1142/BE623_Biocomputing/tree/main/Lab3_assignment
Sandhya1142 / BE623_Biocomputing
Type / to search
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
Files
main
Go to file
Lab1_assignment
Lab2_assignment
Lab3_assignment
Awk-Cheatsheet.pdf
Lab_Assignment_3-Sandhya.pdf
Lab_session_3_practice.pdf
Sed Cheatsheet.pdf
clock_gene.fasta
lab_assignment_3_q.pdf
newfile
newfile2
protein.fasta
protein.pdb
sequence.fasta
BE623_Biocomputing / Lab3_assignment /
Add file
Sandhya1142 Add Lab_assignment3
f40b502 · 1 minute ago
History
Name
Last commit message
Last commit date
..
Awk-Cheatsheet.pdf
Add Lab_assignment3
1 minute ago
Lab_Assignment_3-Sandhya.pdf
Add Lab_assignment3
1 minute ago
Lab_session_3_practice.pdf
Add Lab_assignment3
1 minute ago
Sed Cheatsheet.pdf
Add Lab_assignment3
1 minute ago
clock_gene.fasta
Add Lab_assignment3
1 minute ago
lab_assignment_3_q.pdf
Add Lab_assignment3
1 minute ago
newfile
Add Lab_assignment3
1 minute ago
newfile2
Add Lab_assignment3
1 minute ago
protein.fasta
Add Lab_assignment3
1 minute ago
protein.pdb
Add Lab_assignment3
1 minute ago
sequence.fasta
Add Lab_assignment3
1 minute ago