

CLOUD COMPUTING LAB

Name: Maria Abdul Malik

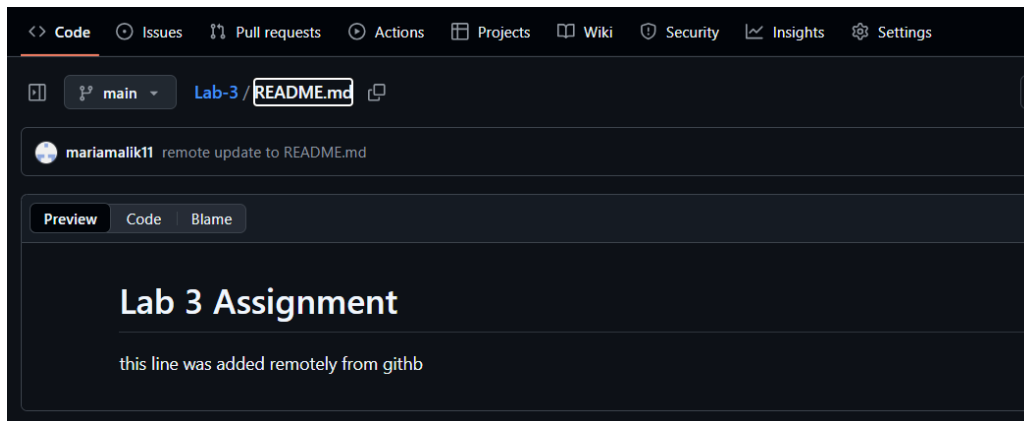
Reg No: 2023-BSE-076

Submitted to: Sir Muhammad Shoaib

Class: 5B

LAB #03

Task 1 – Handling Local and Remote Commit Conflicts (Pull vs Pull --rebase)



Remote_edited.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git add README.md
warning: in the working copy of 'README.md', LF will be replaced by CRLF the next time Git touches it

Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git commit -m "Local update to README"
[main 519053f] Local update to README
1 file changed, 1 insertion(+)
```

Local_commit.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git push origin main
To github.com:mariamalik11/Lab-3.git
 ! [rejected]        main -> main (fetch first)
error: failed to push some refs to 'github.com:mariamalik11/Lab-3.git'
hint: Updates were rejected because the remote contains work that you do not
hint: have locally. This is usually caused by another repository pushing to
hint: the same ref. If you want to integrate the remote changes, use
hint: 'git pull' before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
```

Push_error.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git pull --no-rebase origin main
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (3/3), 966 bytes | 107.00 KiB/s, done.
From github.com:mariamalik11/Lab-3
 * branch            main      -> FETCH_HEAD
   4886974..a9bdd52  main      -> origin/main
Auto-merging README.md
CONFLICT (content): Merge conflict in README.md
Automatic merge failed; fix conflicts and then commit the result.
```

Merge_commit.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git push -u origin main
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (6/6), 655 bytes | 81.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:mariamalik11/Lab-3.git
   a9bdd52..d972ed2  main -> main
branch 'main' set up to track 'origin/main'.
```

Push_after_merge.png

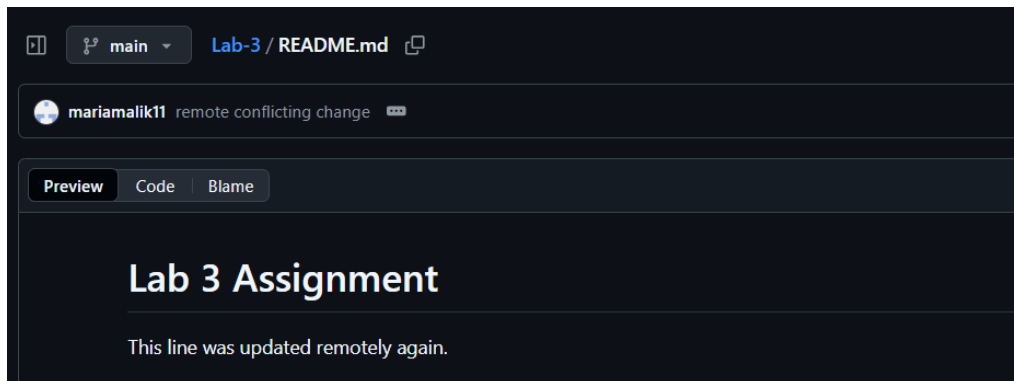
```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git pull --rebase origin main
From github.com:mariamalik11/Lab-3
 * branch            main      -> FETCH_HEAD
Already up to date.
```

Rebase_pull.png

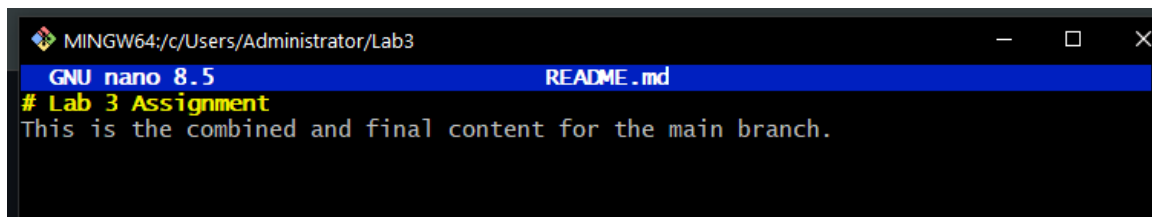
```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git push -u origin main
branch 'main' set up to track 'origin/main'.
Everything up-to-date
```

Push_after_rebase.png

Task 2 – Creating and Resolving Merge Conflicts Manually



Remote_conflict edit



Local_conflict edit.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git add README.md

Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git commit -m "Local conflicting change"
[main 90ce4e3] Local conflicting change
1 file changed, 1 insertion(+), 1 deletion(-)
```

local_conflict_commit.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git push -u origin main
To github.com:mariamalik11/Lab-3.git
 ! [rejected]        main -> main (fetch first)
error: failed to push some refs to 'github.com:mariamalik11/Lab-3.git'
hint: Updates were rejected because the remote contains work that you do not
hint: have locally. This is usually caused by another repository pushing to
hint: the same ref. If you want to integrate the remote changes, use
hint: 'git pull' before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
```

conflict_push_error.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git pull --rebase origin main
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (3/3), 994 bytes | 30.00 KiB/s, done.
From github.com:mariamalik11/Lab-3
* branch      main      -> FETCH_HEAD
  d972ed2..b76efa3  main    -> origin/main
Auto-merging README.md
CONFLICT (content): Merge conflict in README.md
error: could not apply 90ce4e3... Local conflicting change
hint: Resolve all conflicts manually, mark them as resolved with
hint: "git add/rm <conflicted_files>", then run "git rebase --continue".
hint: You can instead skip this commit: run "git rebase --skip".
hint: To abort and get back to the state before "git rebase", run "git rebase
--abort".
hint: Disable this message with "git config set advice.mergeConflict false"
Could not apply 90ce4e3... # Local conflicting change
```

conflict_message.png

```
GNU nano 8.5          README.md
# Lab 3 Assignment

This line was updated remotely again.

This is the combined and final content for the main branch.
```

Resolved_README.md

```
[detached HEAD c26e1e5] Local conflicting change
1 file changed, 3 insertions(+)
Successfully rebased and updated refs/heads/main.
```

Rebase_countine.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git push -u origin main
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 362 bytes | 181.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:mariamalik11/Lab-3.git
  b76efa3..c26e1e5  main -> main
branch 'main' set up to track 'origin/main'.
```

Push_after resolve.png

Task 3 – Managing Ignored Files with .gitignore and Removing Tracked Files

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git add .
git commit -m "Added textfiles directory with three files"
git push origin main
warning: in the working copy of 'textfiles/a.txt', LF will be replaced by CRLF
the next time Git touches it
warning: in the working copy of 'textfiles/b.txt', LF will be replaced by CRLF
the next time Git touches it
warning: in the working copy of 'textfiles/c.txt', LF will be replaced by CRLF
the next time Git touches it
[main 3c4b859] Added textfiles directory with three files
3 files changed, 3 insertions(+)
create mode 100644 textfiles/a.txt
create mode 100644 textfiles/b.txt
create mode 100644 textfiles/c.txt
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (6/6), 463 bytes | 231.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:mariamalik11/Lab-3.git
c26e1e5..3c4b859 main -> main
```

Pushtext_files.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git add .gitignore
git commit -m "Added .gitignore to ignore textfiles directory"
git push origin main
warning: in the working copy of '.gitignore', LF will be replaced by CRLF the
next time Git touches it
[main b605d1e] Added .gitignore to ignore textfiles directory
1 file changed, 1 insertion(+)
create mode 100644 .gitignore
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 350 bytes | 116.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:mariamalik11/Lab-3.git
3c4b859..b605d1e main -> main
```

Git_ignore_push.png

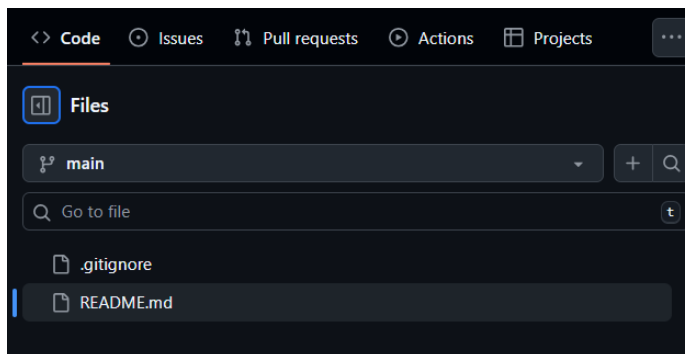


textfiles	Added textfiles directory with three files	3 minutes ago
.gitignore	Added .gitignore to ignore textfiles dir...	1 minute ago
README.md	Local conflicting change	yesterday

Repo still has text file.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git push origin main
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (2/2), 240 bytes | 240.00 KiB/s, done.
Total 2 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:mariamalik11/Lab-3.git
b605d1e..17588d1 main -> main
```

Rm_cached push.png



Repo textfiles removed.png

Task 4 – Create Temporary Changes and Use git stash

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (feature-branch)
$ nano README.md

Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (feature-branch)
$ git add README.md
git commit -m "Changes the README.md file"
[feature-branch 7288e6d] Changes the README.md file
1 file changed, 1 insertion(+)
```

Modified_README.md

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (feature-branch)
$ git checkout main
error: Your local changes to the following files would be overwritten by checkout:
      README.md
Please commit your changes or stash them before you switch branches.
Aborting
```

Checkout_error.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (feature-branch)
$ git stash
Saved working directory and index state WIP on feature-branch: 7288e6d Change
s the README.md file
```

Stash_command.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (feature-branch)
$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
```

Branch_switches.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (main)
$ git checkout feature-branch
Switched to branch 'feature-branch'
```

Back_to_feature.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (feature-branch)
$ git status
On branch feature-branch
nothing to commit, working tree clean
```

Status_clean.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (feature-branch)
$ git stash pop
On branch feature-branch
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   README.md

no changes added to commit (use "git add" and/or "git commit -a")
Dropped refs/stash@{0} (15dc95e4cdd781d965a53d912ac047d36f543e07)
```

Stash_pop.png

Task 5 – Checkout a Specific Commit Using git log

```
Administrator@DESKTOP-96URTNL MINGW64 ~/Lab3 (feature-branch)
$ git log --oneline
7288e6d (HEAD -> feature-branch) Changes the README.md file
17588d1 (origin/main, main) Removed tracked textfiles directory
b605d1e Added .gitignore to ignore textfiles directory
3c4b859 Added textfiles directory with three files
c26e1e5 Local conflicting change
b76efa3 remote conflicting change
d972ed2 Merge branch 'main' of github.com:mariamalik11/Lab-3
519053f Local update to README
a9bdd52 remote update to README.md
4886974 Initial commit for Lab 3
```

Log_before_checkout.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 ((7288e6d...))
$ git checkout 7288e6d
M      README.md
HEAD is now at 7288e6d Changes the README.md file
```

Detached_headed.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 ((7288e6d...))
$ git checkout main
Previous HEAD position was 7288e6d Changes the README.md file
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
```

Back_to_main.png

Task 6 – Resetting Commits (Soft vs Hard Reset) (With Verification Steps)

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git add .

Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git commit -m "Added test line"
[main 686b4bc] Added test line
1 file changed, 2 insertions(+)
```

First commit.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git add .

Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git commit -m "Second test commit"
[main 4608673] Second test commit
1 file changed, 2 insertions(+)
```


Second_commit.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git log --oneline
4608673 (HEAD -> main) Second test commit
686b4bc Added test line
17588d1 (origin/main) Removed tracked textfiles directory
b605d1e Added .gitignore to ignore textfiles directory
3c4b859 Added textfiles directory with three files
c26e1e5 Local conflicting change
b76efa3 remote conflicting change
d972ed2 Merge branch 'main' of github.com:mariamalik11/Lab-3
519053f Local update to README
a9bdd52 remote update to README.md
4886974 Initial commit for Lab 3
```

Log_before_reset.png

```
This line was updated remotely again.
This is the combined and final content for the main branch.
This is my file
This is not my file
```

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git reset --soft HEAD~1

Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git log --oneline
686b4bc (HEAD -> main) Added test line
17588d1 (origin/main) Removed tracked textfiles directory
b605d1e Added .gitignore to ignore textfiles directory
3c4b859 Added textfiles directory with three files
c26e1e5 Local conflicting change
b76efa3 remote conflicting change
d972ed2 Merge branch 'main' of github.com:mariamalik11/Lab-3
519053f Local update to README
a9bdd52 remote update to README.md
4886974 Initial commit for Lab 3
```

Soft_reset.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   README.md

Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git commit -m "Second Test commit"
[main 03f41f9] Second Test commit
 1 file changed, 2 insertions(+)
```

File_after_hard_reset

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git reset --hard HEAD~1
HEAD is now at 686b4bc Added test line
```

Hard_reset.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git log --oneline
686b4bc (HEAD -> main) Added test line
17588d1 (origin/main) Removed tracked textfiles directory
b605d1e Added .gitignore to ignore textfiles directory
3c4b859 Added textfiles directory with three files
c26e1e5 Local conflicting change
b76efa3 remote conflicting change
d972ed2 Merge branch 'main' of github.com:mariamalik11/Lab-3
519053f Local update to README
a9bdd52 remote update to README.md
4886974 Initial commit for Lab 3
```

log_after_hard_reset.png

```
This line was updated remotely again.
This is the combined and final content for the main branch.
This is my file
```

file_after_hard_reset.png

Task 7 – Amending the Last Commit:

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git add .

Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git commit -m "fix log message"
[main 55dd39d] fix log message
1 file changed, 2 insertions(+)
```

First_amend-commit

```
[main 5ab23c5] fix log message
Date: Fri Oct 24 13:00:10 2025 +0500
1 file changed, 3 insertions(+), 1 deletion(-)
```

Amend_commit.png

Task 8 – Reverting a Commit (Safe Undo on Remote Branch):

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ echo "temporary text" >> temp.txt

Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git add .
warning: in the working copy of 'temp.txt', LF will be replaced by CRLF
the next time Git touches it

Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git commit -m "Added temporary text file"
[main 52d9412] Added temporary text file
1 file changed, 1 insertion(+)
create mode 100644 temp.txt

Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git push origin main
Enumerating objects: 11, done.
Counting objects: 100% (11/11), done.
Delta compression using up to 4 threads
Compressing objects: 100% (8/8), done.
Writing objects: 100% (9/9), 858 bytes | 26.00 KiB/s, done.
Total 9 (delta 3), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (3/3), completed with 1 local object.
To github.com:mariamalik11/Lab-3.git
17588d1..52d9412 main -> main
```

Commit_temp_file.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git revert 03f41f9
Auto-merging README.md
CONFLICT (content): Merge conflict in README.md
error: could not revert 03f41f9... Second Test commit
hint: After resolving the conflicts, mark them with
hint: "git add/rm <paths>", then run
hint: "git revert --continue".
hint: You can instead skip this commit with "git revert --skip".
hint: To abort and get back to the state before "git revert",
hint: run "git revert --abort".
hint: Disable this message with "git config set advice.mergeConflict false"
```

revert_commit.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git push origin main
Everything up-to-date
```

Revert_push.png

Task 9 – Force Push (With Caution):

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (main)
$ git checkout -b test-force
Switched to a new branch 'test-force'
```

New_branch.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (test-force)
$ git add .
git commit -m "Commit to be force-pushed"
git push origin test-force
[test-force 8d3edcf] Commit to be force-pushed
1 file changed, 1 insertion(+)

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), 361 bytes | 361.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote:
remote: Create a pull request for 'test-force' on GitHub by visiting:
remote:   https://github.com/mariamalik11/Lab-3/pull/new/test-force
remote:
To github.com:mariamalik11/Lab-3.git
 * [new branch]      test-force -> test-force
```

Force_commit.png

```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (test-force)
$ git reset --hard HEAD~1
HEAD is now at 52d9412 Added temporary text file
```

Hard_reset_force.png

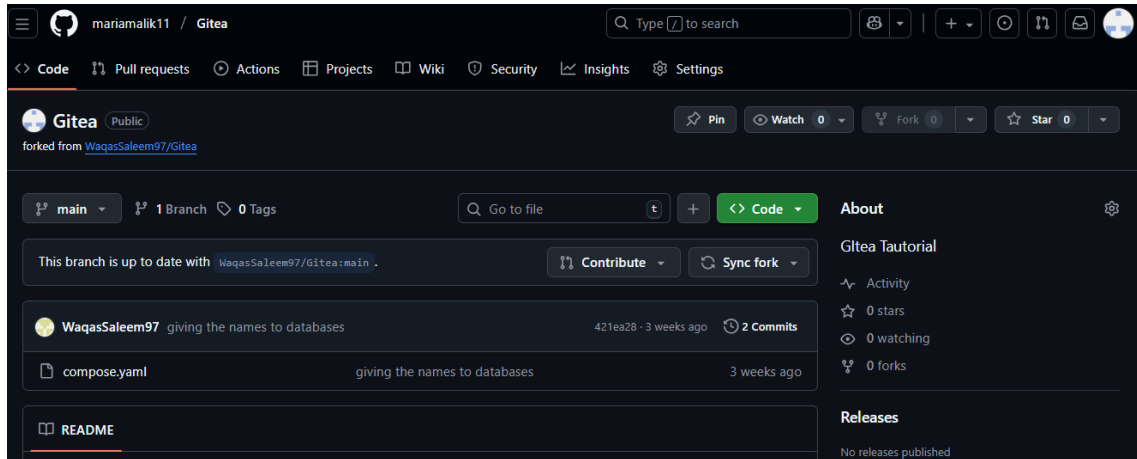
```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (test-force)
$ git push origin test-force
To github.com:mariamalik11/Lab-3.git
! [rejected]        test-force -> test-force (non-fast-forward)
error: failed to push some refs to 'github.com:mariamalik11/Lab-3.git'
hint: Updates were rejected because the tip of your current branch is behind
hint: its remote counterpart. If you want to integrate the remote change
s,
hint: use 'git pull' before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
```

normal_push.png

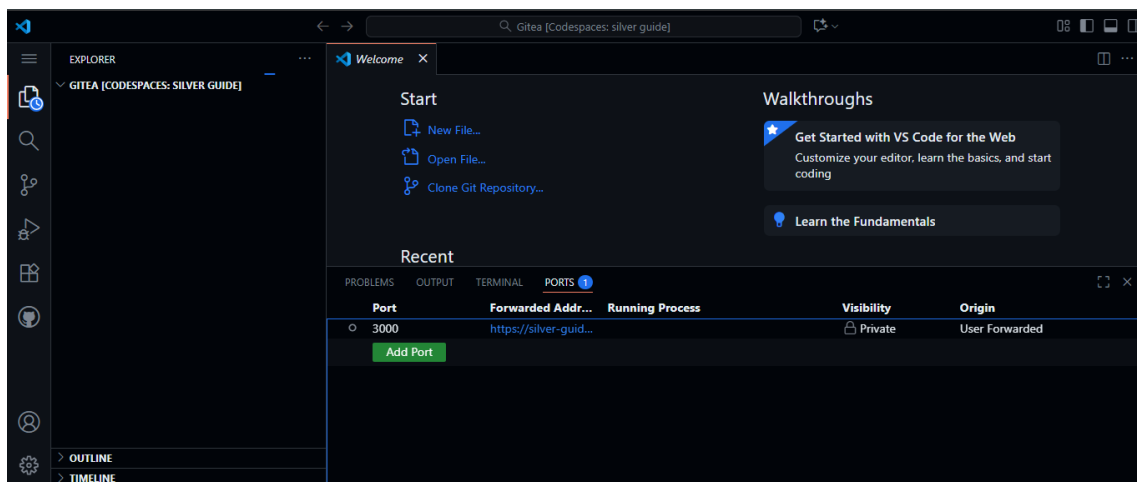
```
Administrator@DESKTOP-96URTNL MINGW64 ~/lab3 (test-force)
$ git push origin test-force --force
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:mariamalik11/Lab-3.git
+ 8d3edcf...52d9412 test-force -> test-force (forced update)
```

Force_push.png

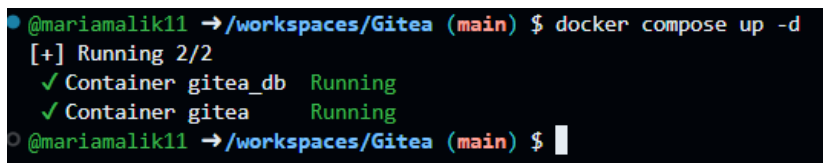
Task 10 – Running Gitea in GitHub Codespaces via Docker Compose:



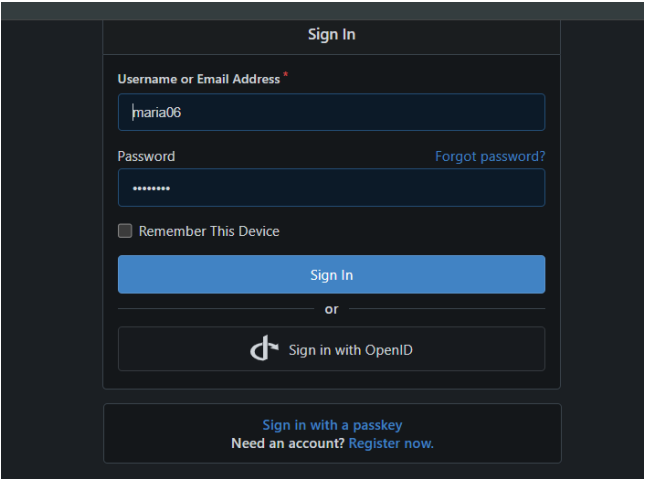
forked_gitea.png



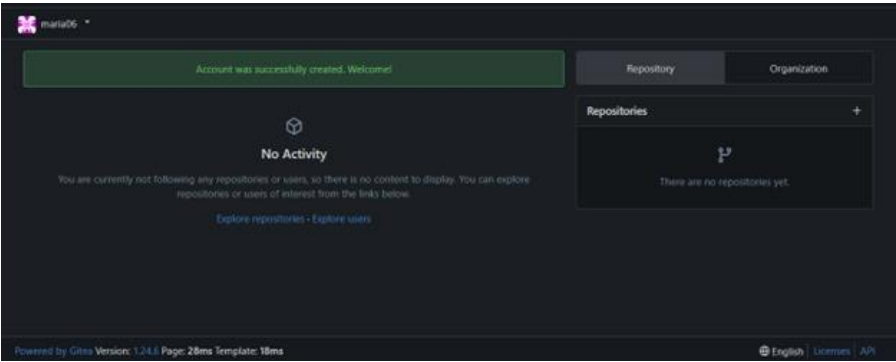
Codespace_login.png



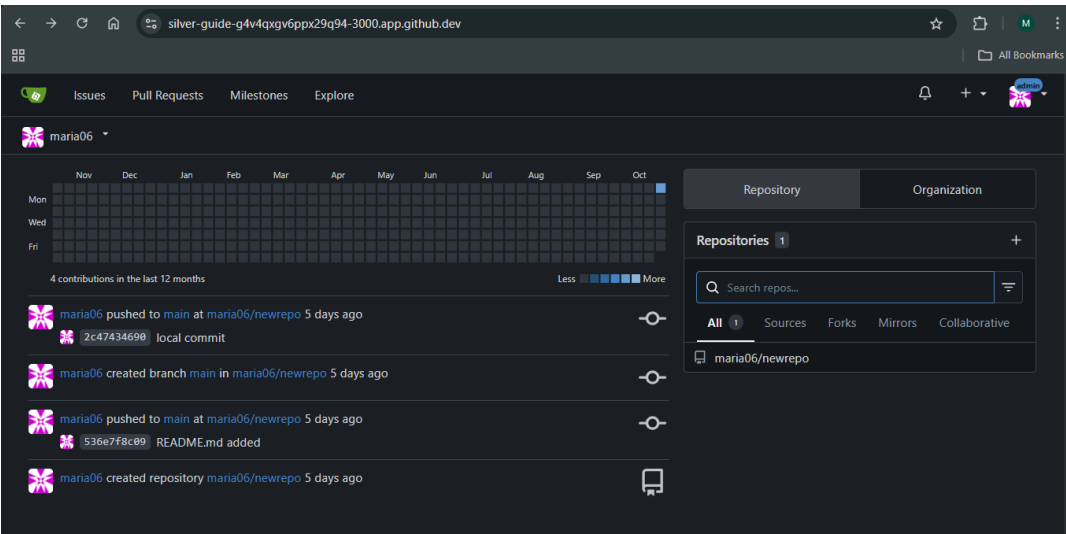
Docker_up.png



Install_gitea.png






gitea_dashboard.png



Gitea_repo.png


Task 11 – Creating a GitHub Pages Portfolio Site

Name	Date modified	Type	Size
 images	5/15/2025 5:36 AM	PNG File	6 KB
 index	10/19/2025 4:10 PM	Avast HTML Doc...	6 KB
 style	5/15/2025 5:36 AM	Cascading Style ...	2 KB


local_static_site.png


```
PS C:\Users\Laptop\Pictures\cv task> git push -u origin main
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 8.03 KiB | 373.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:SafaJahangir09/safa.github.io.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.
PS C:\Users\Laptop\Pictures\cv task>
```


push_static_site.png




**MARIA ABDUL
MALIK**
*Undergraduate Student
(Software Engineering)*

 N/A

 mariamalikk0607@gmail.com

 lane#3 street#7 Quaid e Azam colony

 <https://www.linkedin.com/in/maria-abdul-malik-548437334>

Nationality: Pakistani **Date of birth:** N/A **Gender:** N/A **Marital Status:** N/A

Objective
/
Summary

A dedicated Software Engineering student at Fatima Jinnah Women University with a strong interest in technology and innovation. Continuously working to enhance skills in emerging tech tools. Driven by curiosity and a passion for learning, I actively engage in projects and technical activities to build a solid foundation for a successful career in the tech industry.

live_site.png