

Problem Statement 1:

New to git? Follow the steps below to get comfortable making changes to the code base, opening up a pull request (PR), and merging code into the primary branch. Any important git and GitHub terms are in bold with links to the official git reference materials.

1. Install git and create a GitHub account.
2. Create a local git repository.
3. Add a new file to the repo.
4. Add a file to the staging environment.
5. Create a commit.
6. Create a new branch.
7. Create a new repository on GitHub.
8. Push a branch to GitHub.
9. makes a temporary, local save of your code.
10. let's you tidy up your code before doing a commit.
11. Use the function that allows you to hunt out bad commits.
12. commits the combine squash in git.
13. Apply changes from one branch onto another.

SOLUTION:

STEP 1:

- Install Git: Download and install Git from the official website according to your operating system.

Link- <https://git-scm.com/book/en/v2/Getting-Started-Installing-Git>

- Create a GitHub Account: Go to GitHub's website and sign up for an account if you haven't already.

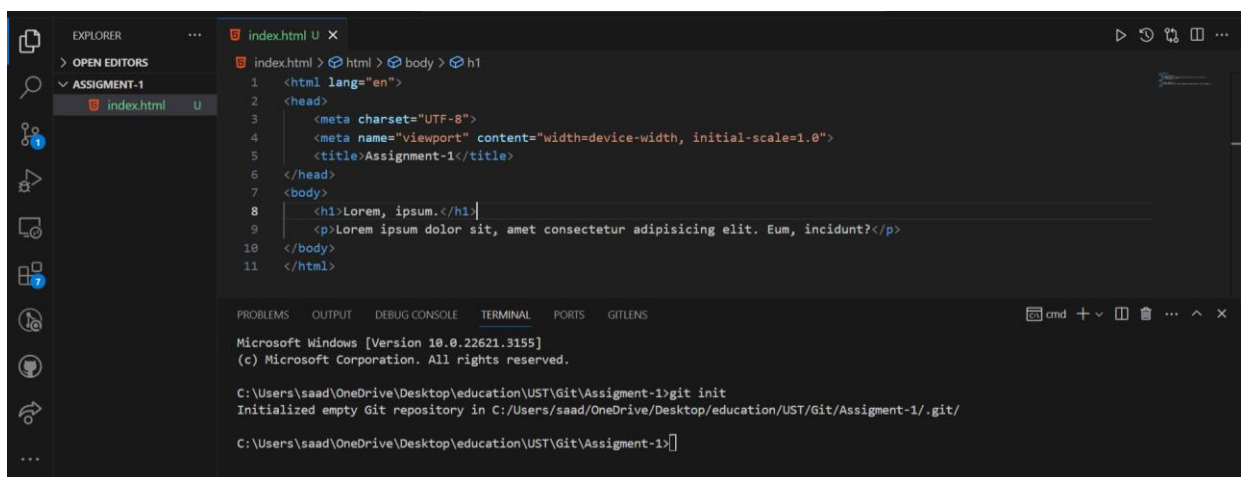
My GitHub Account- <https://github.com/saadmuqtadeer>

STEP 2:

- Open a terminal or command prompt.
- Navigate to the directory where you want to initialize the Git repository. Run the command: **'git init'**

Step 3:

- Add a New File to the Repository Create a new file in the project directory or copy an existing file into it.



The screenshot shows the Visual Studio Code interface. On the left, the Explorer pane shows a project named 'ASSIGNMENT-1' with a file 'index.html'. The main editor area displays the content of 'index.html', which is an HTML document with a head section containing meta tags for charset, viewport, and title, and a body section with an h1 heading and a paragraph of Lorem Ipsum text. Below the editor, the TERMINAL pane is open, showing the output of the 'git init' command. The output indicates that an empty Git repository has been initialized in the directory 'C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1\.git/'. The terminal prompt is now 'C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>'.

```
index.html U x
1 <html lang="en">
2 <head>
3   <meta charset="UTF-8">
4   <meta name="viewport" content="width=device-width, initial-scale=1.0">
5   <title>Assignment-1</title>
6 </head>
7 <body>
8   <h1>Lorem, ipsum.</h1>
9   <p>Lorem ipsum dolor sit, amet consectetur adipisicing elit. Eum, incididunt?</p>
10 </body>
11 </html>

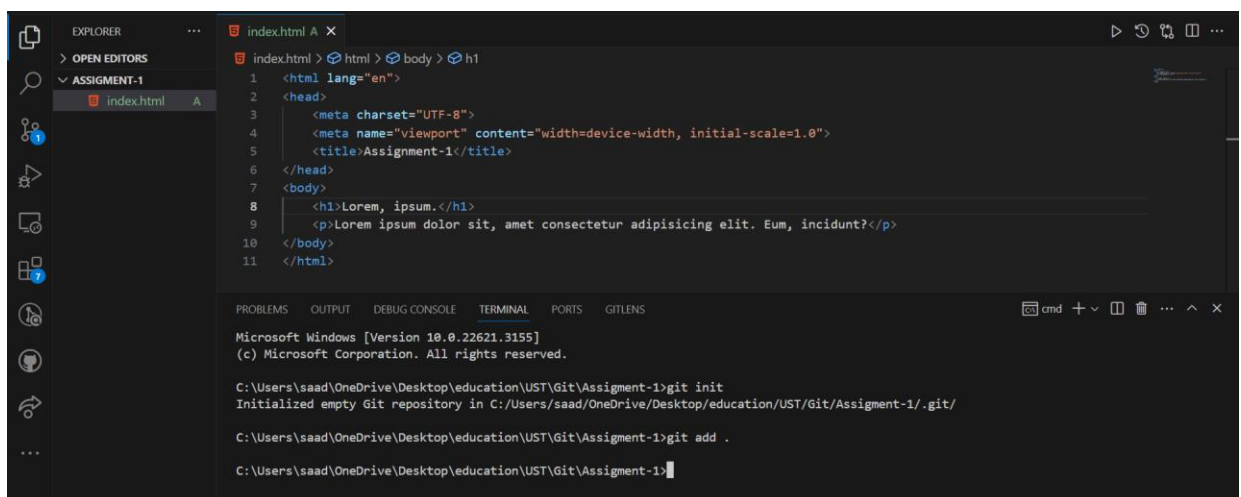
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS
Microsoft Windows [Version 10.0.22621.3155]
(c) Microsoft Corporation. All rights reserved.

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git init
Initialized empty Git repository in C:/Users/saad/OneDrive/Desktop/education/UST/Git/Assignment-1/.git/

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>
```

Step 4:

- Use the command: **'git add .'** to add the file to the staging area.



The screenshot shows the Visual Studio Code interface. The Explorer pane shows the 'index.html' file. The main editor area displays the same HTML document as in the previous screenshot. The TERMINAL pane is open, showing the output of the 'git add .' command. The output indicates that the files in the current directory have been added to the staging area. The terminal prompt is now 'C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>'.

```
index.html A x
1 <html lang="en">
2 <head>
3   <meta charset="UTF-8">
4   <meta name="viewport" content="width=device-width, initial-scale=1.0">
5   <title>Assignment-1</title>
6 </head>
7 <body>
8   <h1>Lorem, ipsum.</h1>
9   <p>Lorem ipsum dolor sit, amet consectetur adipisicing elit. Eum, incididunt?</p>
10 </body>
11 </html>

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS
Microsoft Windows [Version 10.0.22621.3155]
(c) Microsoft Corporation. All rights reserved.

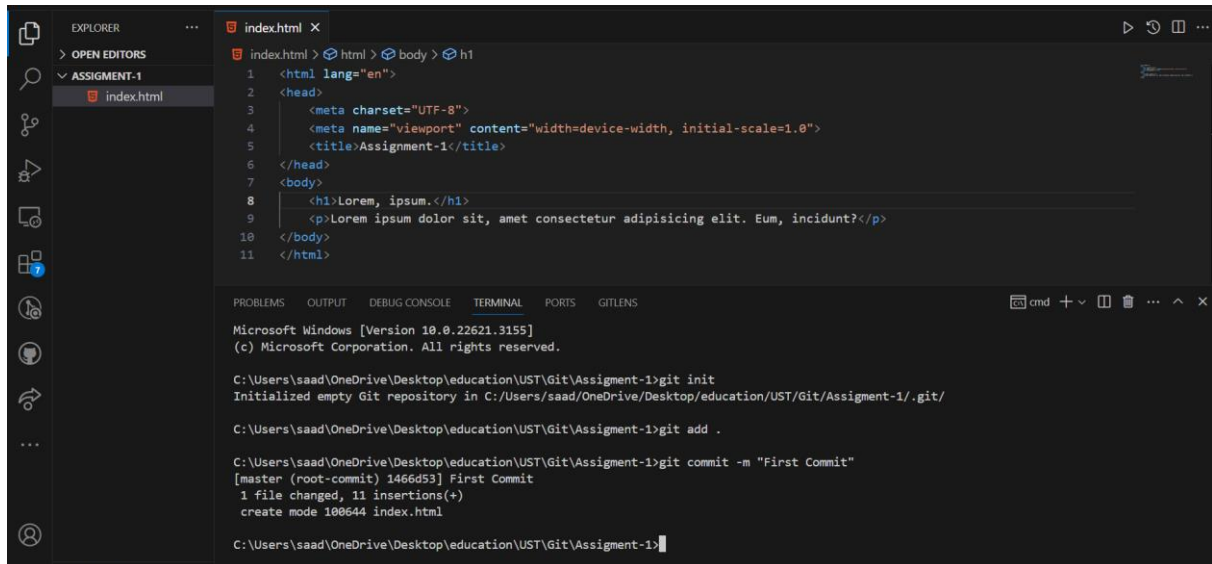
C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git init
Initialized empty Git repository in C:/Users/saad/OneDrive/Desktop/education/UST/Git/Assignment-1/.git/

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git add .

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>
```

Step 5:

- Run the command: **git commit -m "First commit"** to create a commit with a descriptive message.



The screenshot shows the Visual Studio Code interface. The Explorer pane on the left shows a project named 'ASSIGNMENT-1' with a file 'index.html'. The editor pane shows the content of 'index.html', which is an HTML file with a head section containing meta tags for charset, viewport, and title, and a body section containing an h1 tag and a paragraph of Lorem Ipsum text. The terminal pane at the bottom shows the output of the following commands:

```
C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git init
Initialized empty Git repository in C:/Users/saad/OneDrive/Desktop/education/UST/Git/Assignment-1/.git/

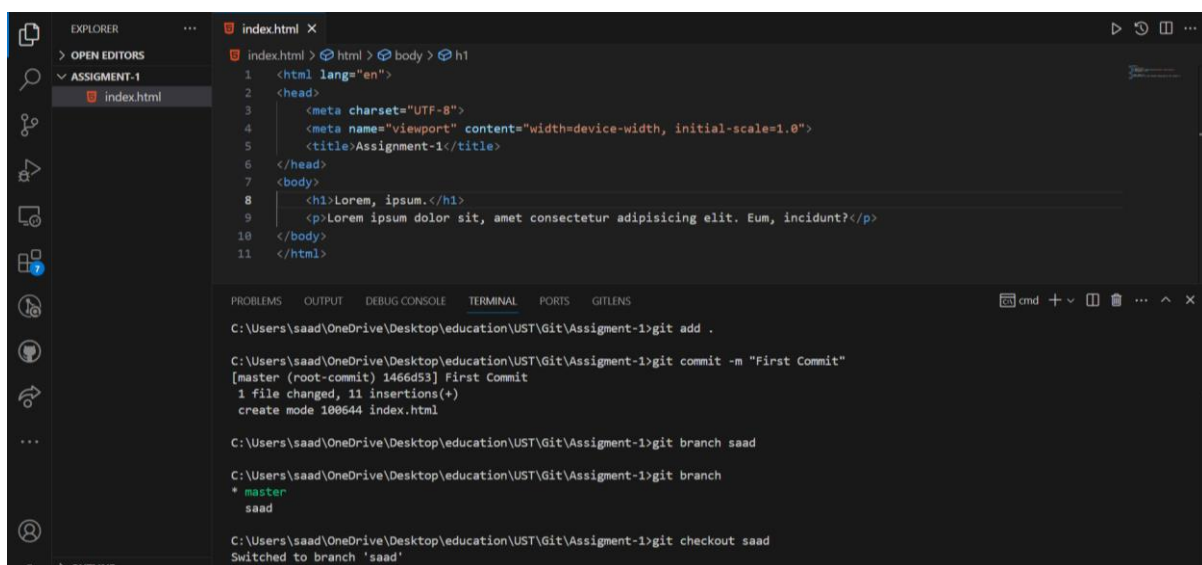
C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git add .

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git commit -m "First Commit"
[master (root-commit) 1466d53] First Commit
1 file changed, 11 insertions(+)
create mode 100644 index.html

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>
```

Step 6:

- Use the command: **'git branch new_branch'** to create a new branch. Replace new_branch with the desired name for your new branch.
- Switch to the new branch using: **'git checkout new_branch'**.



The screenshot shows the Visual Studio Code interface. The Explorer pane on the left shows a project named 'ASSIGNMENT-1' with a file 'index.html'. The editor pane shows the content of 'index.html', which is an HTML file with a head section containing meta tags for charset, viewport, and title, and a body section containing an h1 tag and a paragraph of Lorem Ipsum text. The terminal pane at the bottom shows the output of the following commands:

```
C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git add .

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git commit -m "First Commit"
[master (root-commit) 1466d53] First Commit
1 file changed, 11 insertions(+)
create mode 100644 index.html

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git branch saad

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git branch
* master
  saad

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git checkout saad
Switched to branch 'saad'
```

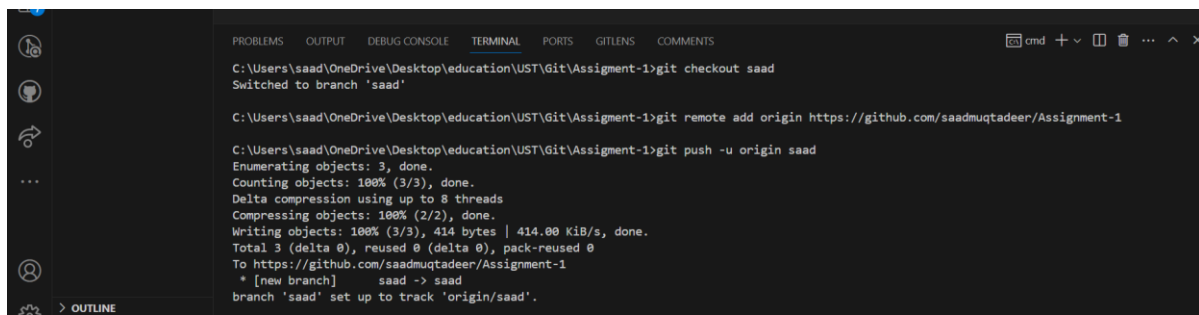
Step 7:

- Go to GitHub's website and log in. Click on the "+" icon in the top right corner and select "New repository".

My REPO Link- <https://github.com/saadmuqtadeer/Assignment-1>

Step 8:

- Link your local repository to the newly created GitHub repository using: **'git remote add origin <repository_URL>'**
- Push your branch: **'git push -u origin <branch_name>'**



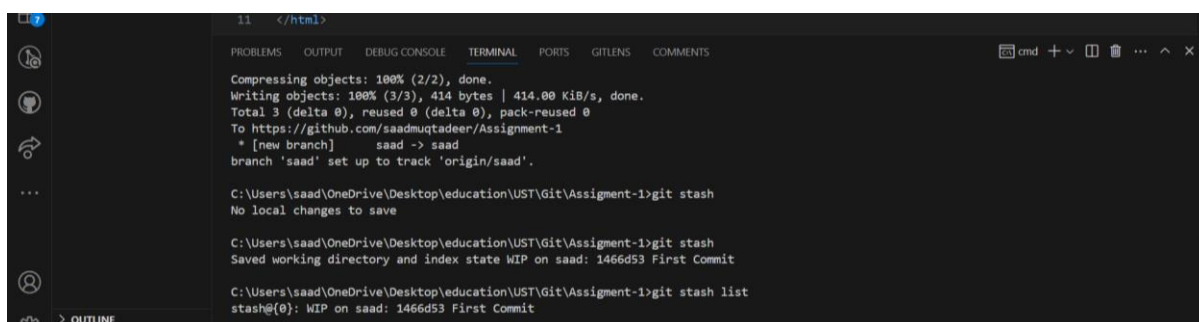
```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS COMMENTS
C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git checkout saad
Switched to branch 'saad'

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git remote add origin https://github.com/saadmuqtadeer/Assignment-1

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git push -u origin saad
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 414 bytes | 414.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/saadmuqtadeer/Assignment-1
 * [new branch] saad -> saad
branch 'saad' set up to track 'origin/saad'.
```

Step 9:

- Use the command: **'git stash'** to stash away your changes temporarily.



```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS COMMENTS
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 414 bytes | 414.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/saadmuqtadeer/Assignment-1
 * [new branch] saad -> saad
branch 'saad' set up to track 'origin/saad'.

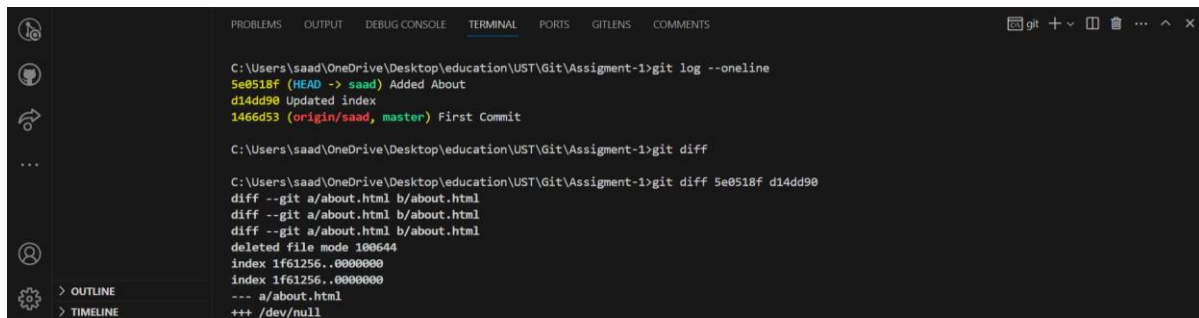
C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git stash
No local changes to save

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git stash
Saved working directory and index state WIP on saad: 1466d53 First Commit

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git stash list
stash@0: WIP on saad: 1466d53 First Commit
```

Step 10:

- Use **'git diff'** to see the changes made since the last commit.
- Use **'git add'** to stage the changes you want to include in the next commit.



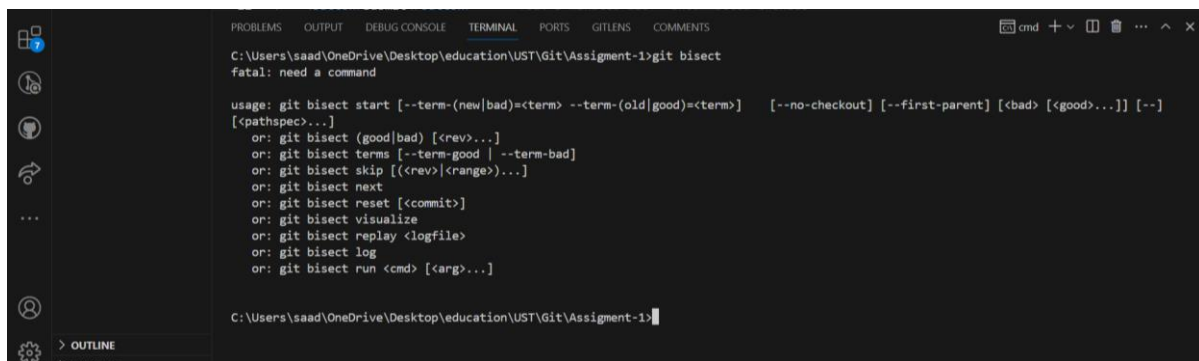
```
C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git log --oneline
5e0518f (HEAD -> saad) Added About
d14dd90 Updated index
1466d53 (origin/saad, master) First Commit

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git diff

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git diff 5e0518f d14dd90
diff --git a/about.html b/about.html
diff --git a/about.html b/about.html
diff --git a/about.html b/about.html
deleted file mode 100644
index 1f61256..0000000
index 1f61256..0000000
--- a/about.html
+++ /dev/null
```

Step 11:

- Use **'git bisect'** to perform a binary search for a commit that introduced a bug.

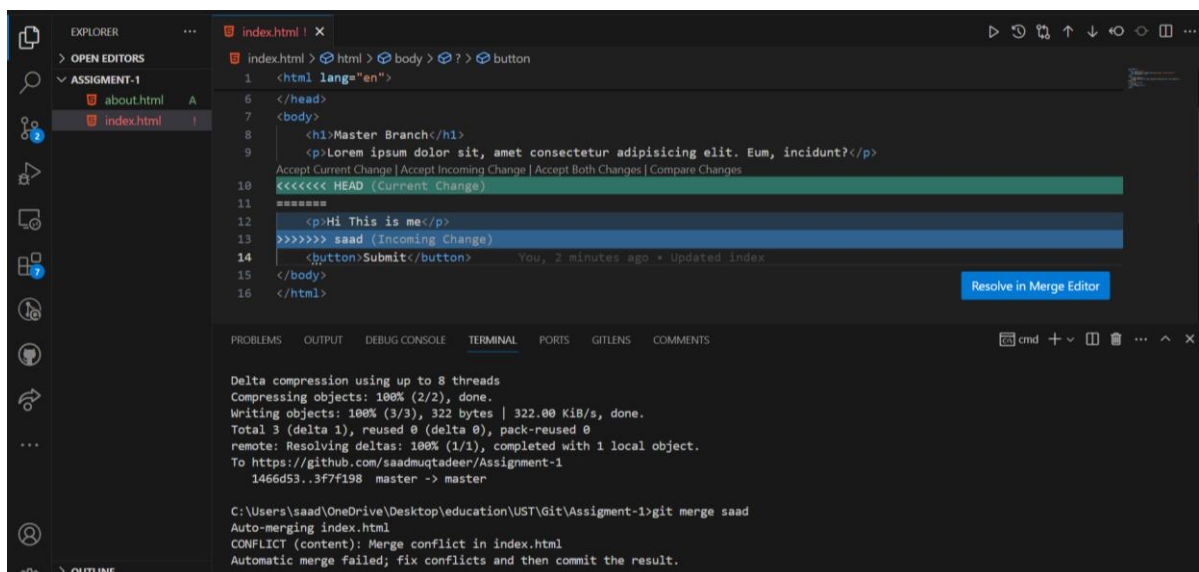


```
C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git bisect
fatal: need a command

usage: git bisect start [--term=(new|bad)=<term> --term=(old|good)=<term>] [--no-checkout] [--first-parent] [<bad> [<good>...]] [--]
[<paths>...]
or: git bisect (good|bad) [<rev>...]
or: git bisect terms [--term-good | --term-bad]
or: git bisect skip [<rev> [<range>]...]
or: git bisect next
or: git bisect reset [<commit>]
or: git bisect visualize
or: git bisect replay <logfile>
or: git bisect log
or: git bisect run <cmd> [<arg>...]
```

Step 12:

- Use **git merge <branch_name>** to merge changes from one branch into another.



```
1 <html lang="en">
2 <head>
3 <body>
4 <h1>Master Branch</h1>
5 <p>Lorem ipsum dolor sit, amet consectetur adipisicing elit. Eum, incididunt?</p>
6
7 <<<<<< HEAD (Current Change)
8 =====
9 <p>Hi This is me</p>
10 >>>>>> saad (Incoming Change)
11 <button>Submit</button>
12 </body>
13 </html>
```

```
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 322 bytes | 322.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/saadmuqtadeer/Assignment-1
1466d53..3f7f198 master -> master

C:\Users\saad\OneDrive\Desktop\education\UST\Git\Assignment-1>git merge saad
Auto-merging index.html
CONFLICT (content): Merge conflict in index.html
Automatic merge failed; fix conflicts and then commit the result.
```

