

SELF LEARNING BATCH 2025

Version Control using Git

Undoing Changes and Reverting Commits

Objective:

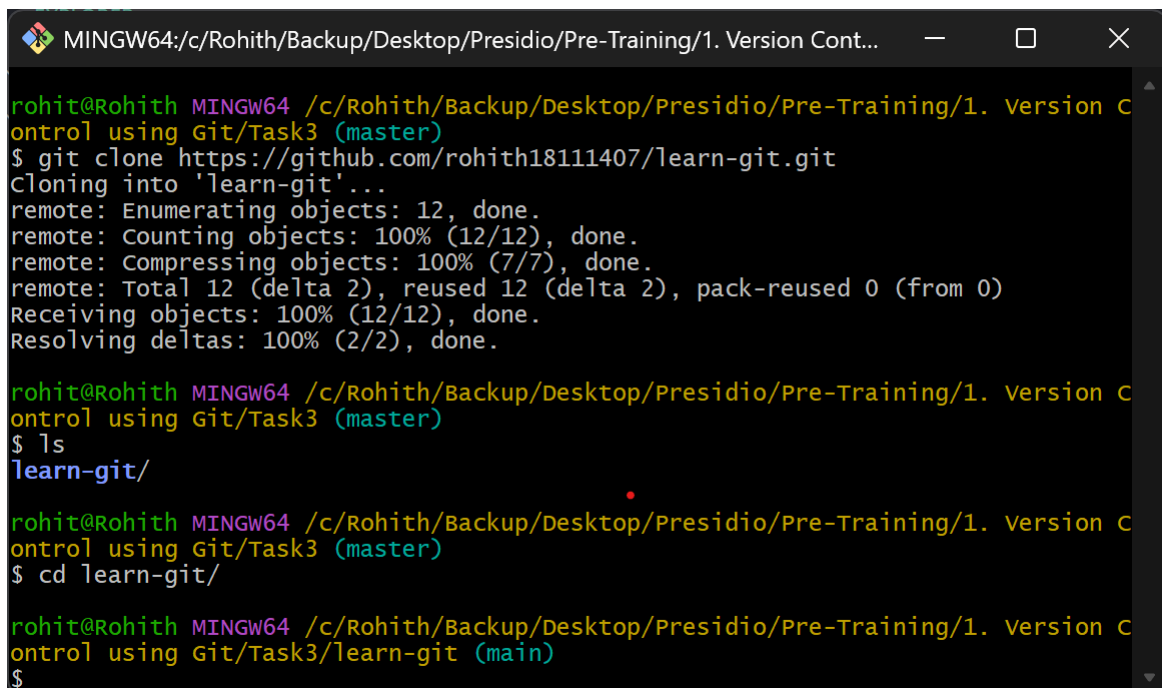
- Experiment with undoing changes in your working directory and commits.

Requirements:

- Modify a tracked file and use git checkout -- <file> (or git restore) to undo changes.
- Make a commit, then use git revert or git reset to see how you can undo a commit safely.
- Explain the differences between these approaches.

Undo uncommitted changes using:

git checkout -- <filename>



```
MINGW64:/c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3 (master)
$ git clone https://github.com/rohith18111407/learn-git.git
Cloning into 'learn-git'...
remote: Enumerating objects: 12, done.
remote: Counting objects: 100% (12/12), done.
remote: Compressing objects: 100% (7/7), done.
remote: Total 12 (delta 2), reused 12 (delta 2), pack-reused 0 (from 0)
Receiving objects: 100% (12/12), done.
Resolving deltas: 100% (2/2), done.

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3 (master)
$ ls
learn-git/

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3 (master)
$ cd learn-git/

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main)
$
```

This screenshot shows the Visual Studio Code editor with the `index.html` file open. The Explorer sidebar on the left shows the project structure with folders `learn-git` and `task3`, and files `index.html` and `readme.md`. The main editor area displays the HTML code for `index.html`, which includes a DOCTYPE declaration, language attribute, charset, viewport meta tag, title, and a body with an h1 heading, a paragraph, and a list of links. A status bar at the bottom indicates the current file is `index.html` and the active branch is `master`. A notification in the bottom right corner suggests installing recommended extensions for Docker.

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6   <title>Git Website</title>
7 </head>
8 <body>
9   <h1> Insight of pushing code inyo github</h1>
10  <p> Hello and welcome to learn git roadway</p>
11  <ul>
12    <li>Home</li>
13    <li>About us</li>
14    <li>Contact us</li>
15  </ul>
16 </body>
17 </html>
```

This screenshot shows the Visual Studio Code editor with the `readme.md` file open. The Explorer sidebar on the left shows the project structure with folders `learn-git` and `task3`, and files `index.html` and `readme.md`. The main editor area displays the Markdown content for `readme.md`, which includes a heading, a paragraph, and a code block for JavaScript. A status bar at the bottom indicates the current file is `readme.md` and the active branch is `main`. A notification in the bottom right corner suggests installing recommended extensions for Docker.

```
1 # Learn about git and github
2
3 amazing content
4
5 ```javascript
6 console.log("hello world");
7 ```
8
```

```
File Edit Selection View Go Run ... Task3
EXPLORER
  OPEN EDITORS
    index.html learn-git
  TASK3
    .git
    learn-git
      index.html
      readme.md
  index.html X
    learn-git > index.html > html > body > p
    You, 1 second ago | 1 author (You)
    1 <!DOCTYPE html>
    2 <html lang="en">
    3 <head>
    4   <meta charset="UTF-8">
    5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
    6   <title>Git Website</title>
    7 </head>
    8 <body>
    9   <h1> Insight of pushing code inyo github</h1>
   10   <p> Hello and welcome to learn git roadway</p>
   11   <ul>
   12     <li>Home</li>
   13     <li>About us</li>
   14     <li>Contact us</li>
   15   </ul>
   16
   17   <p> New uncommitted change</p>
   18 </body>
   19 </html>
  You, 1 second ago • Uncommitted changes
  You have Docker installed on your system. Do you want to install the recommended extensions from Microsoft for it?
  Install Show Recommendations
  main Launchpad 0 0 Git Graph You, 1 second ago Not Committed Yet Ln 17, Col 31 Spaces: 4 UTF-8 CRLF HTML Prettier
```

```
MINGW64:/c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
$ git init
Reinitialized existing Git repository in C:/Rohith/Backup/Desktop/Presidio/Pre-T
raining/1. Version Control using Git/Task3/learn-git/.git/

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

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:   index.html

no changes added to commit (use "git add" and/or "git commit -a")

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main)
$ git checkout -- index.html

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main)
$
```

The screenshot shows the Visual Studio Code editor interface. The Explorer sidebar on the left shows the file structure with 'index.html' selected. The main editor area displays the content of 'index.html'. The code is as follows:

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6   <title>Git Website</title>
7 </head>
8 <body>
9   <h1> Insight of pushing code inyo github</h1>
10  <p> Hello and welcome to learn git roadway</p>
11  <ul>
12    <li>Home</li>
13    <li>About us</li>
14    <li>Contact us</li>
15  </ul>
16 </body>
17 </html>
```

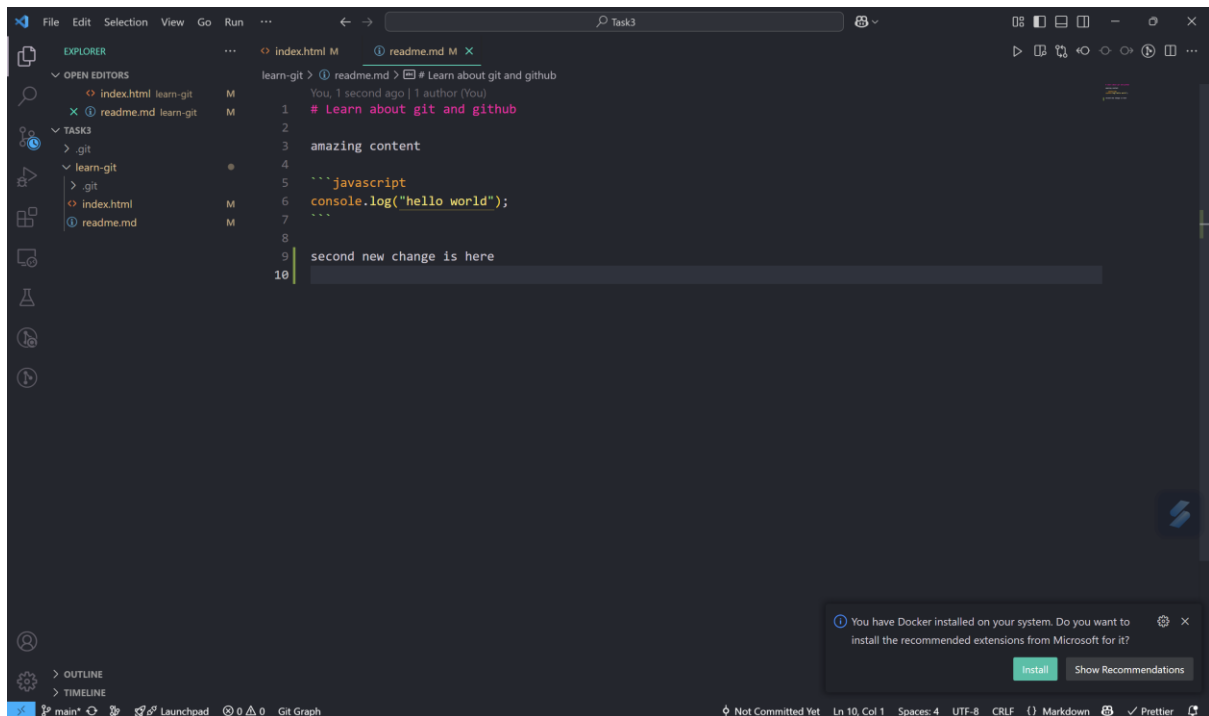
A status bar at the bottom indicates the file is on the 'main' branch, and a notification in the bottom right corner asks if the user wants to install recommended extensions from Microsoft.

Now modifying index.html and readme.md

The screenshot shows the Visual Studio Code editor interface with the 'index.html' file open. The code is the same as in the previous screenshot, but with an additional paragraph added to the body. The code is as follows:

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6   <title>Git Website</title>
7 </head>
8 <body>
9   <h1> Insight of pushing code inyo github</h1>
10  <p> Hello and welcome to learn git roadway</p>
11  <ul>
12    <li>Home</li>
13    <li>About us</li>
14    <li>Contact us</li>
15  </ul>
16
17  <p>First new change</p>
18
19
20 </body>
21 </html>
```

The status bar at the bottom now shows 'Blame Paused' and 'Not Committed Yet'. The notification in the bottom right corner remains the same.



```
MINGW64:/c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
ontrol using Git/Task3/learn-git (main)
$ git checkout -- index.html

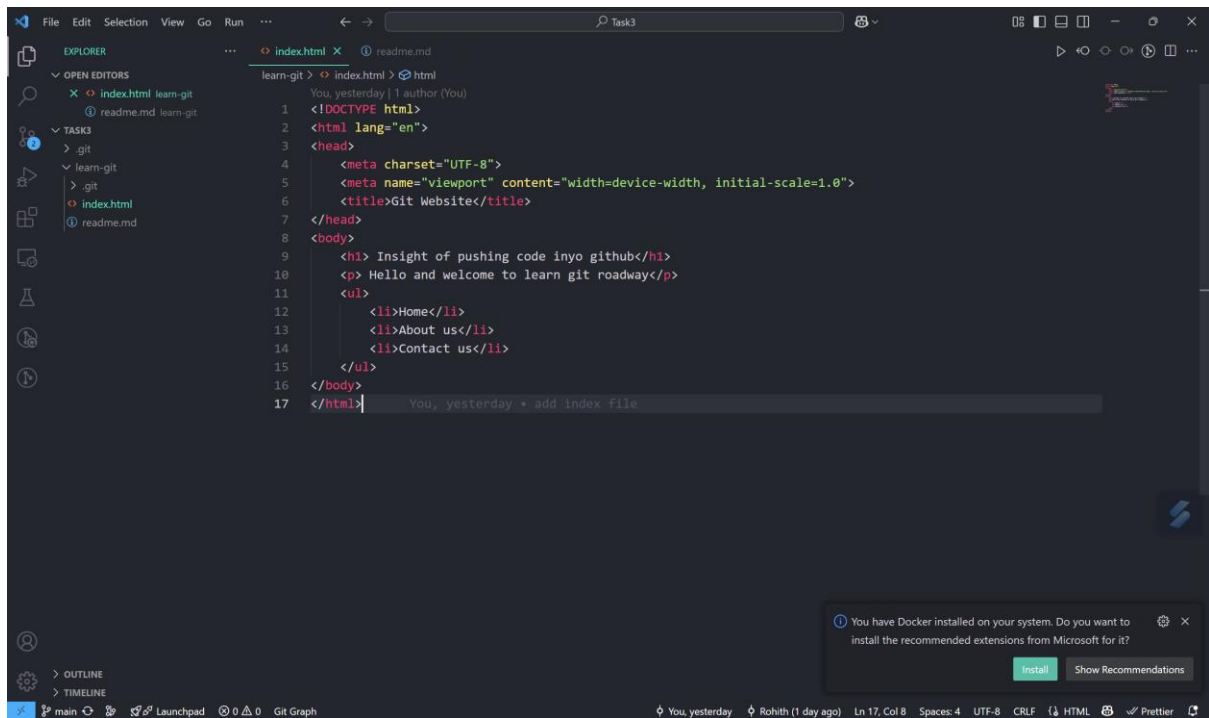
rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

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:   index.html
        modified:   readme.md

no changes added to commit (use "git add" and/or "git commit -a")

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main)
$ git checkout -- .

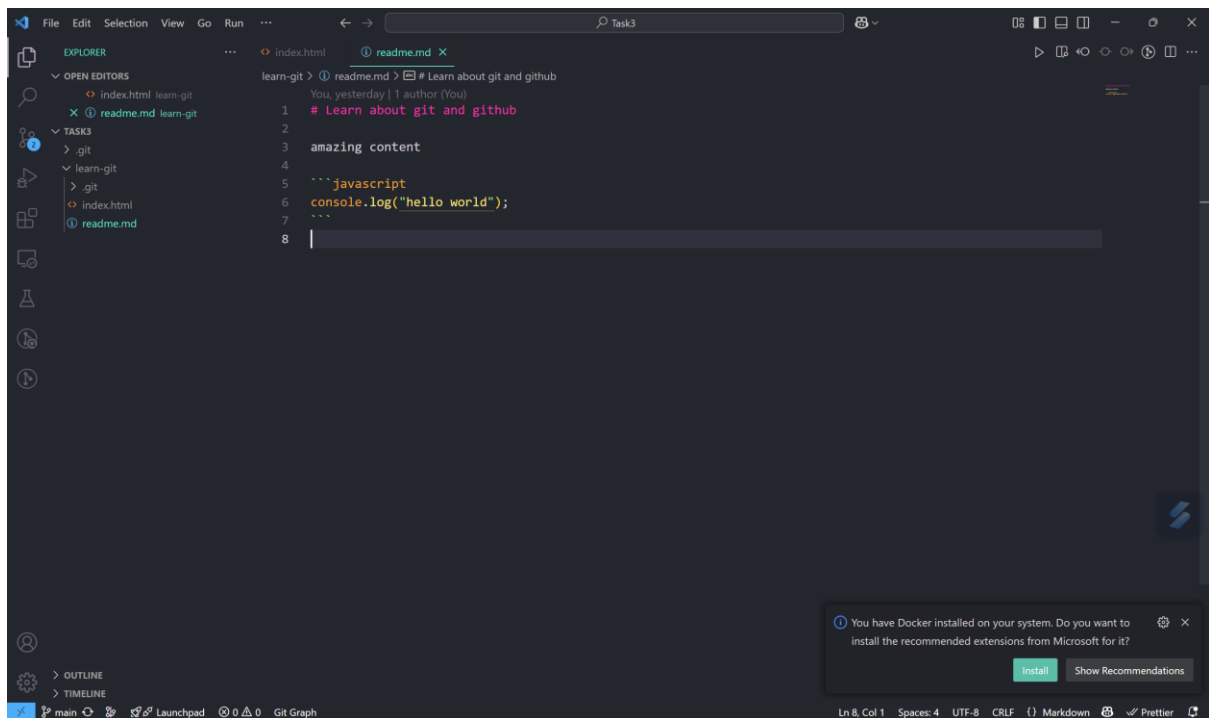
rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main)
$
```



This screenshot shows the Visual Studio Code editor with the 'index.html' file open. The Explorer sidebar on the left shows the project structure with folders 'learn-git' and 'TASK3', and files 'index.html' and 'readme.md'. The main editor area displays the following HTML code:

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6   <title>Git Website</title>
7 </head>
8 <body>
9   <h1> Insight of pushing code inyo github</h1>
10  <p> Hello and welcome to learn git roadway</p>
11  <ul>
12    <li>Home</li>
13    <li>About us</li>
14    <li>Contact us</li>
15  </ul>
16 </body>
17 </html>
```

A status bar at the bottom indicates the current line is 17, column 8, in UTF-8 encoding with CRLF line endings. A notification in the bottom right corner asks if the user wants to install recommended extensions from Microsoft for Docker.



This screenshot shows the Visual Studio Code editor with the 'readme.md' file open. The Explorer sidebar on the left shows the project structure with folders 'learn-git' and 'TASK3', and files 'index.html' and 'readme.md'. The main editor area displays the following JavaScript code:

```
1 # Learn about git and github
2
3 amazing content
4
5 ```javascript
6 console.log("hello world");
7 ```
8
```

A status bar at the bottom indicates the current line is 8, column 1, in UTF-8 encoding with CRLF line endings. A notification in the bottom right corner asks if the user wants to install recommended extensions from Microsoft for Docker.

```
MINGW64:/c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
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:   index.html
        modified:   readme.md

no changes added to commit (use "git add" and/or "git commit -a")

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main)
$ git checkout -- .

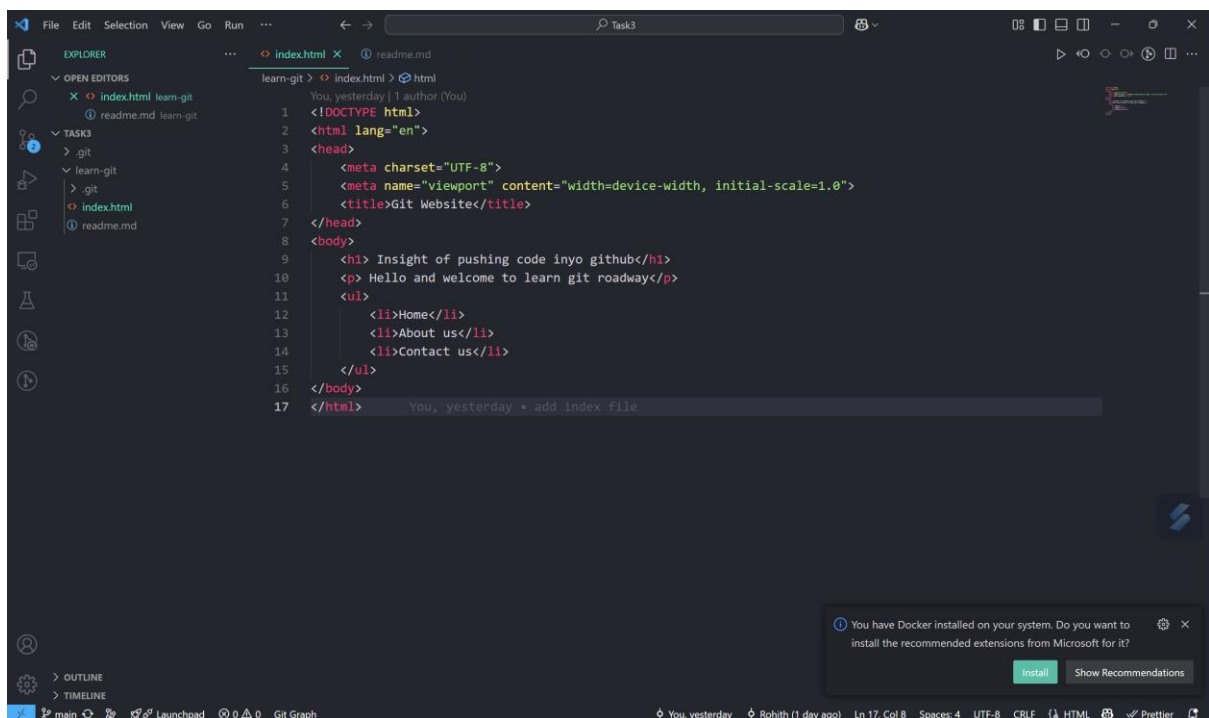
rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

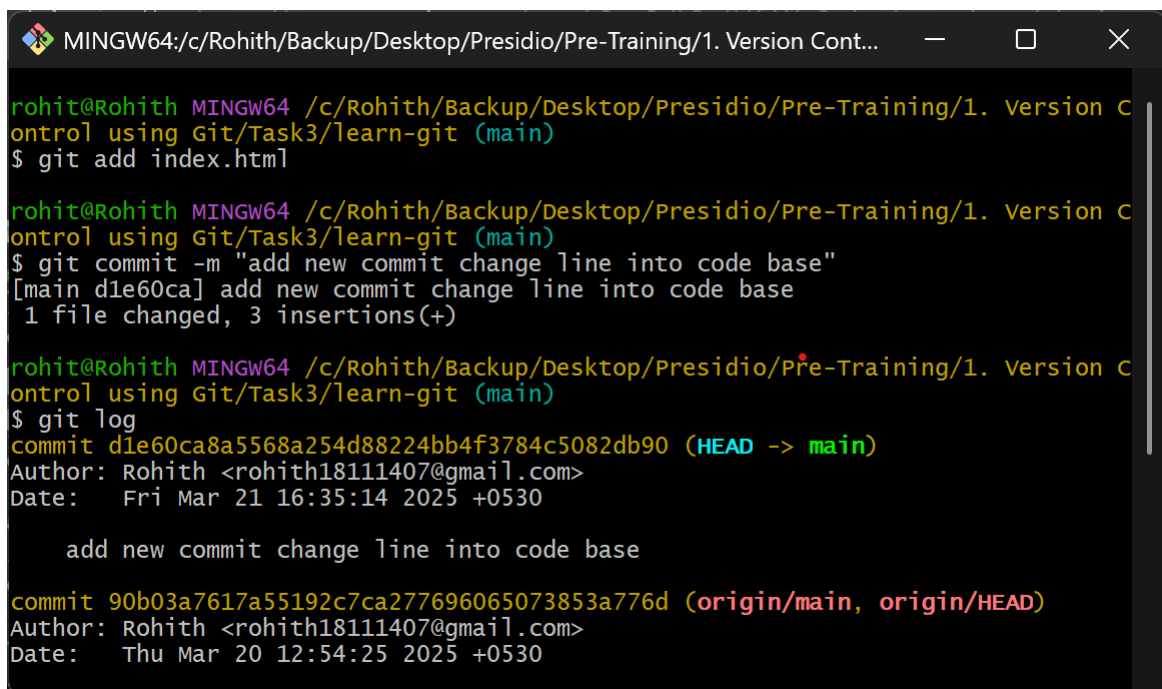
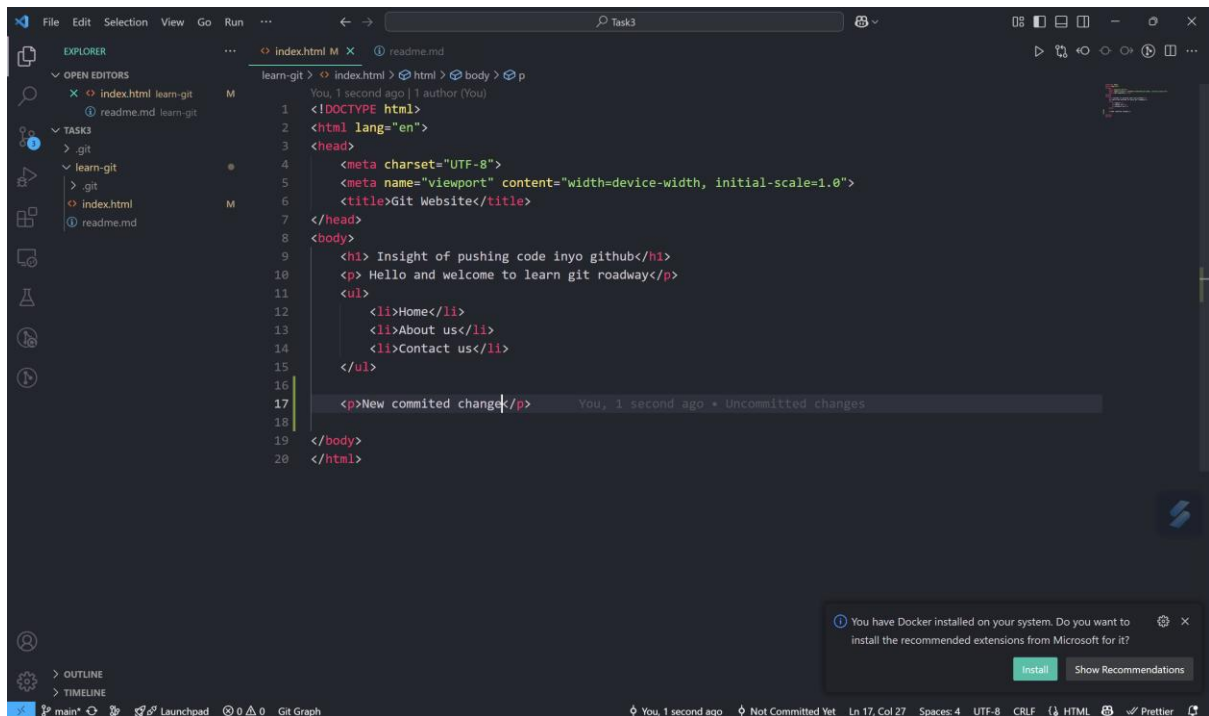
nothing to commit, working tree clean

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main)
$
```

Undo committed changes using

`git revert <commit id>`






```
MINGW64:/c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
commit d1e60ca8a5568a254d88224bb4f3784c5082db90 (HEAD -> main)
Author: Rohith <rohith18111407@gmail.com>
Date: Fri Mar 21 16:35:14 2025 +0530

    add new commit change line into code base

commit 90b03a7617a55192c7ca277696065073853a776d (origin/main, origin/HEAD)
Author: Rohith <rohith18111407@gmail.com>
Date: Thu Mar 20 12:54:25 2025 +0530

    add readme file

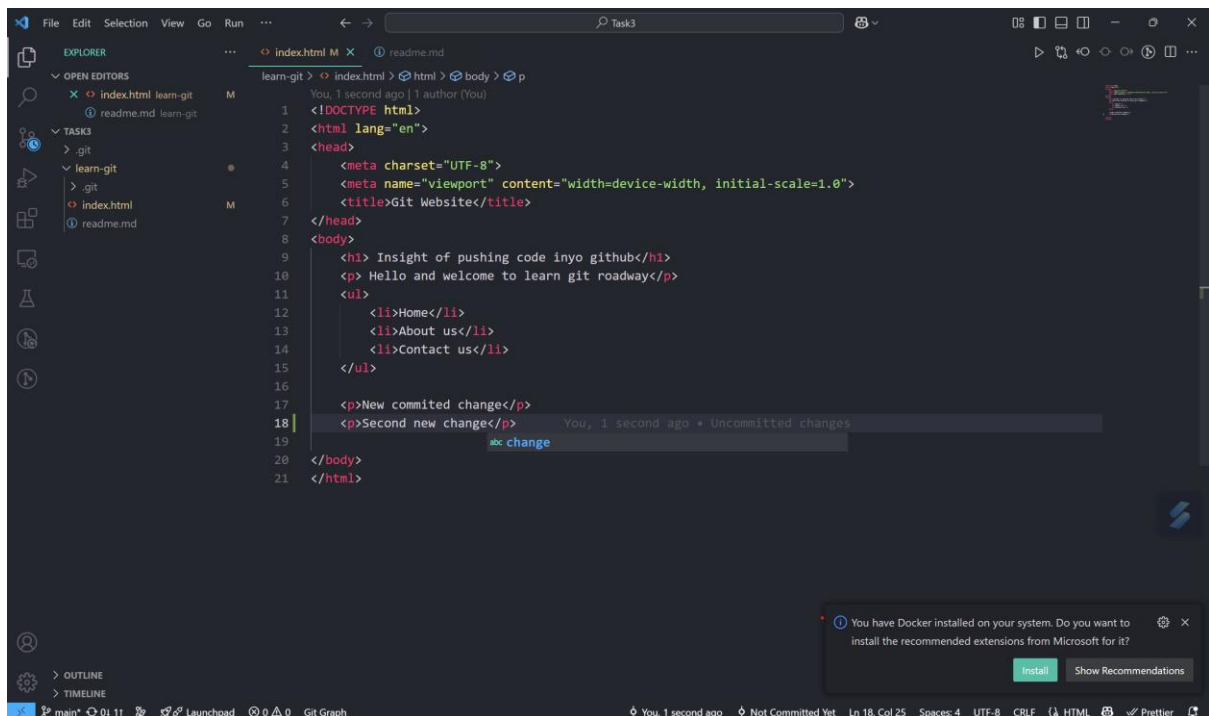
commit 98876705b6d784f63f2be8201aa1df82f44fb623
Author: Rohith <rohith18111407@gmail.com>
Date: Thu Mar 20 12:50:06 2025 +0530

    add a list

commit 1c4bfe0da7c36378a57f2a823433ee745972abd8
Author: Rohith <rohith18111407@gmail.com>
Date: Thu Mar 20 12:48:09 2025 +0530

    add paragraph to code
:
```

Press q to close



```
File Edit Selection View Go Run ...
index.html M X
learn-git > index.html > html > body > p
You, 1 second ago | 1 author (You)
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4 <meta charset="UTF-8">
5 <meta name="viewport" content="width=device-width, initial-scale=1.0">
6 <title>Git Website</title>
7 </head>
8 <body>
9 <h1> Insight of pushing code inyo github</h1>
10 <p> Hello and welcome to learn git roadway</p>
11 <ul>
12 <li>Home</li>
13 <li>About us</li>
14 <li>Contact us</li>
15 </ul>
16
17 <p>New committed change</p>
18 <p>Second new change</p>
19
20 </body>
21 </html>
```

You have Docker installed on your system. Do you want to install the recommended extensions from Microsoft for it?

Install Show Recommendations

```
MINGW64:/c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
$ git add index.html

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
$ git commit -m "add second new commit change line into code base"
[main c9635de] add second new commit change line into code base
1 file changed, 1 insertion(+)

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
$
```

```
MINGW64:/c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
$ git log
commit c9635dee62cd43b9474cc36a29e4921066ffb628 (HEAD -> main)
Author: Rohith <rohith18111407@gmail.com>
Date: Fri Mar 21 16:39:40 2025 +0530

    add second new commit change line into code base

commit d1e60ca8a5568a254d88224bb4f3784c5082db90
Author: Rohith <rohith18111407@gmail.com>
Date: Fri Mar 21 16:35:14 2025 +0530

    add new commit change line into code base

commit 90b03a7617a55192c7ca277696065073853a776d (origin/main, origin/HEAD)
Author: Rohith <rohith18111407@gmail.com>
Date: Thu Mar 20 12:54:25 2025 +0530

    add readme file

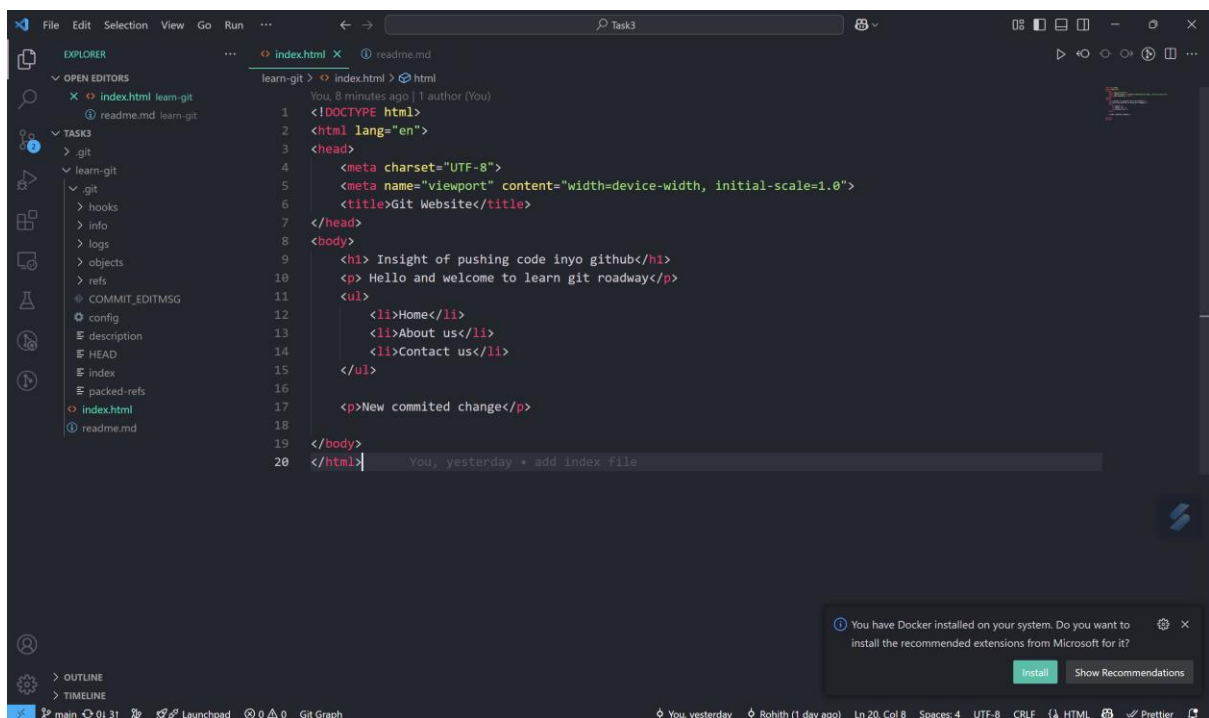
commit 98876705b6d784f63f2be8201aa1df82f44fb623
Author: Rohith <rohith18111407@gmail.com>
Date: Thu Mar 20 12:50:06 2025 +0530

    add a list
```

git revert <commit id you need to revert> and this will automatically make new commit

```
MINGW64:/c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main)
$ git revert c9635dee62cd43b9474cc36a29e4921066ffb628
[main baefd5c] Revert "add second new commit change line into code base"
1 file changed, 1 deletion(-)

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main)
$
```



```
MINGW64:/c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
ontrol using Git/Task3/learn-git (main)
$ git log
commit baefd5cd57b462980a15639989a8c147495b5ef (HEAD -> main)
Author: Rohith <rohith18111407@gmail.com>
Date: Fri Mar 21 16:41:37 2025 +0530

    Revert "add second new commit change line into code base"

    This reverts commit c9635dee62cd43b9474cc36a29e4921066ffb628.

commit c9635dee62cd43b9474cc36a29e4921066ffb628
Author: Rohith <rohith18111407@gmail.com>
Date: Fri Mar 21 16:39:40 2025 +0530

    add second new commit change line into code base

commit d1e60ca8a5568a254d88224bb4f3784c5082db90
Author: Rohith <rohith18111407@gmail.com>
Date: Fri Mar 21 16:35:14 2025 +0530

    add new commit change line into code base

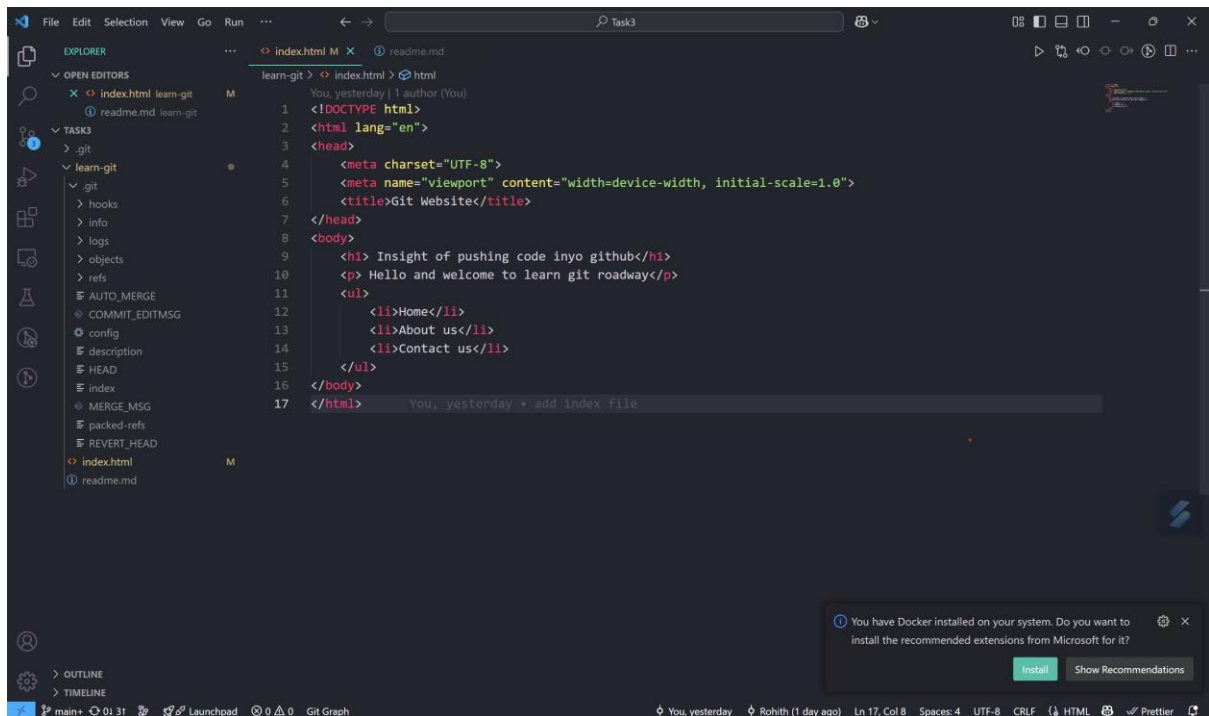
commit 90b03a7617a55192c7ca277696065073853a776d (origin/main, origin/HEAD)
Author: Rohith <rohith18111407@gmail.com>
```

To commit explicitly instead of making automatic commit then run

`git revert -n <commit id you want to revert>`

```
MINGW64:/c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main)
$ git revert -n d1e60ca8a5568a254d88224bb4f3784c5082db90

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main|REVERTING)
$
```



```
MINGW64:/c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main|REVERTING)
$ git status
On branch main
Your branch is ahead of 'origin/main' by 3 commits.
  (use "git push" to publish your local commits)

You are currently reverting commit d1e60ca.
  (all conflicts fixed: run "git revert --continue")
  (use "git revert --skip" to skip this patch)
  (use "git revert --abort" to cancel the revert operation)

changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   index.html

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main|REVERTING)
$ git add index.html

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main|REVERTING)
$ git commit -m "revert to original state"
```

Explicit commit message is displayed in log

```
MINGW64:/c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
ontrol using Git/Task3/learn-git (main)
$ git log
commit 2583ef7b94953b171cba2efc62e3c727f47bafc4 (HEAD -> main)
Author: Rohith <rohith18111407@gmail.com>
Date:   Fri Mar 21 16:50:17 2025 +0530

    revert to original state

commit baefd5cdaa7b462980a15639989a8c147495b5ef
Author: Rohith <rohith18111407@gmail.com>
Date:   Fri Mar 21 16:41:37 2025 +0530

    Revert "add second new commit change line into code base"

    This reverts commit c9635dee62cd43b9474cc36a29e4921066ffb628.

commit c9635dee62cd43b9474cc36a29e4921066ffb628
Author: Rohith <rohith18111407@gmail.com>
Date:   Fri Mar 21 16:39:40 2025 +0530

    add second new commit change line into code base

commit d1e60ca8a5568a254d88224bb4f3784c5082db90
Author: Rohith <rohith18111407@gmail.com>
```

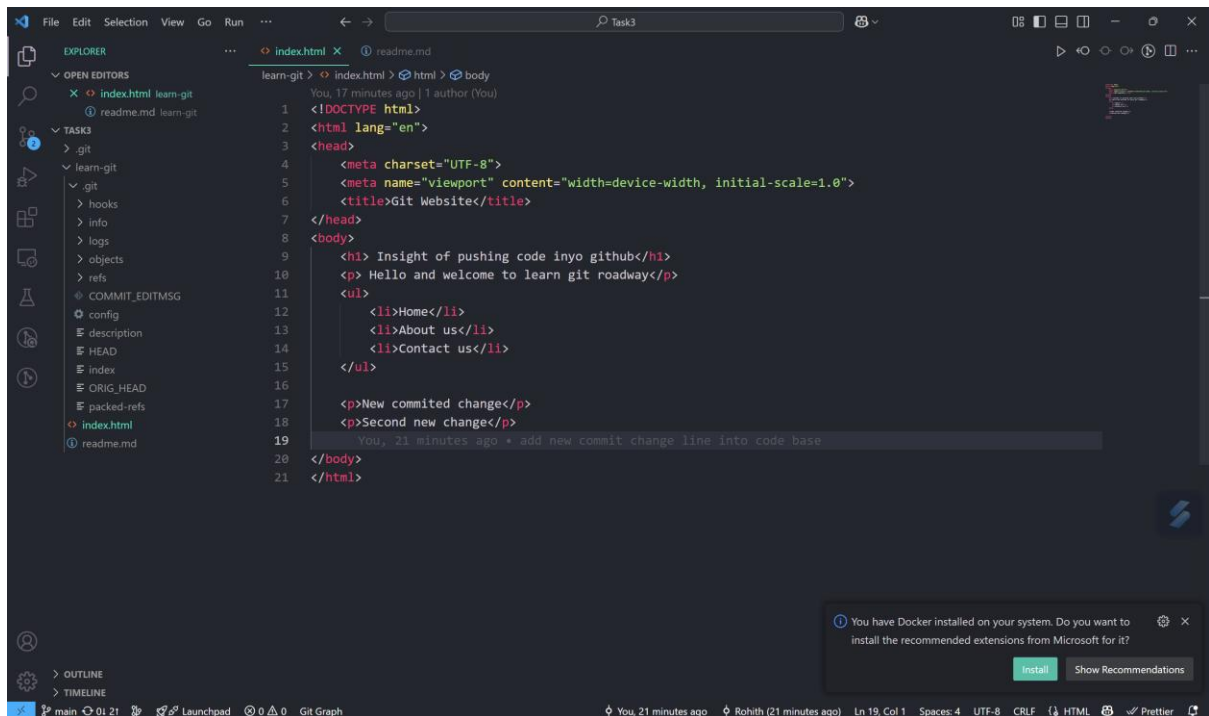
Resetting changes using

`git reset --hard <commit id>`

Now in order to make whatever changes after the selected commit id is not needed in history of logs then use this `git reset --hard <commit id>` command

```
MINGW64:/c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version Cont...
rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main)
$ git reset --hard c9635dee62cd43b9474cc36a29e4921066ffb628
HEAD is now at c9635de add second new commit change line into code base

rohit@Rohith MINGW64 /c/Rohith/Backup/Desktop/Presidio/Pre-Training/1. Version C
ontrol using Git/Task3/learn-git (main)
$
```



Log entries before the reset command commit id is removed

