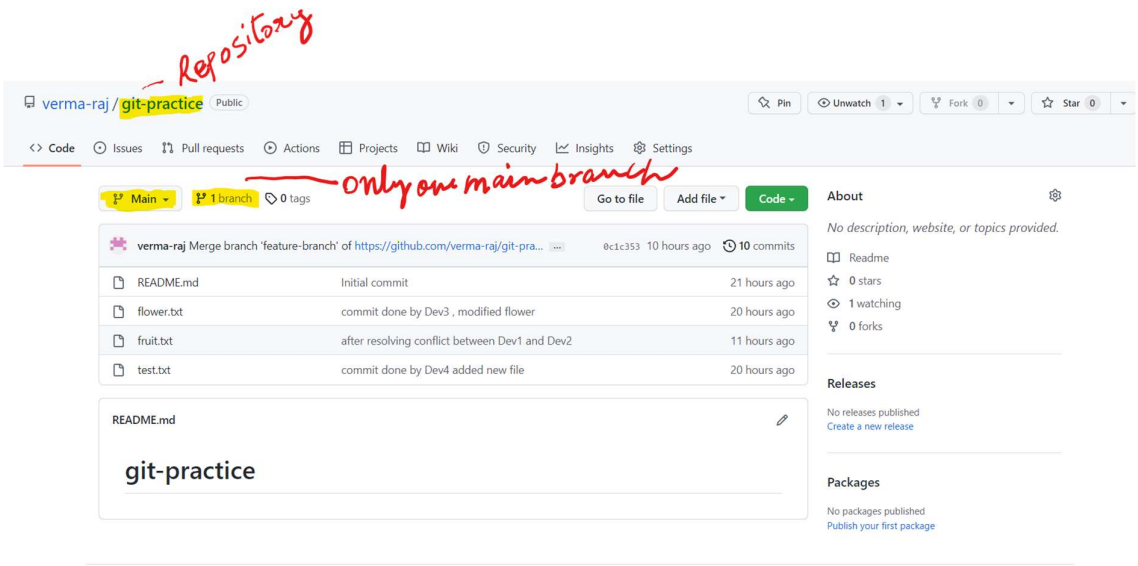
Created By: Rajiv Verma

Merge & Conflict Resolution

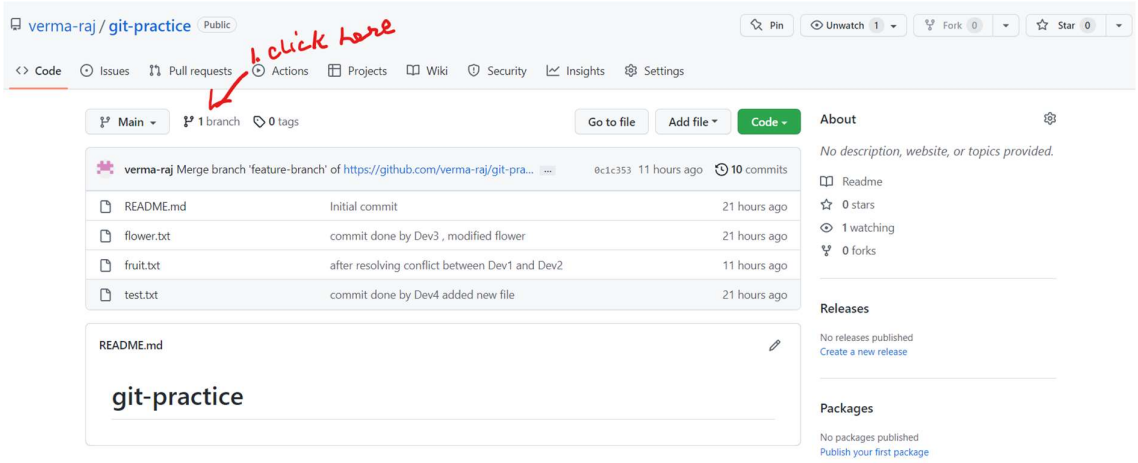
Scenario – we have a project git-practice, repository name “git-practice”. DevOPs team create a new branch and makes it ready for the developer to work for their forthcoming release. There are 3 developers working on the newly created branch and finally Devops team merges the branch to “main” and baseline the code.

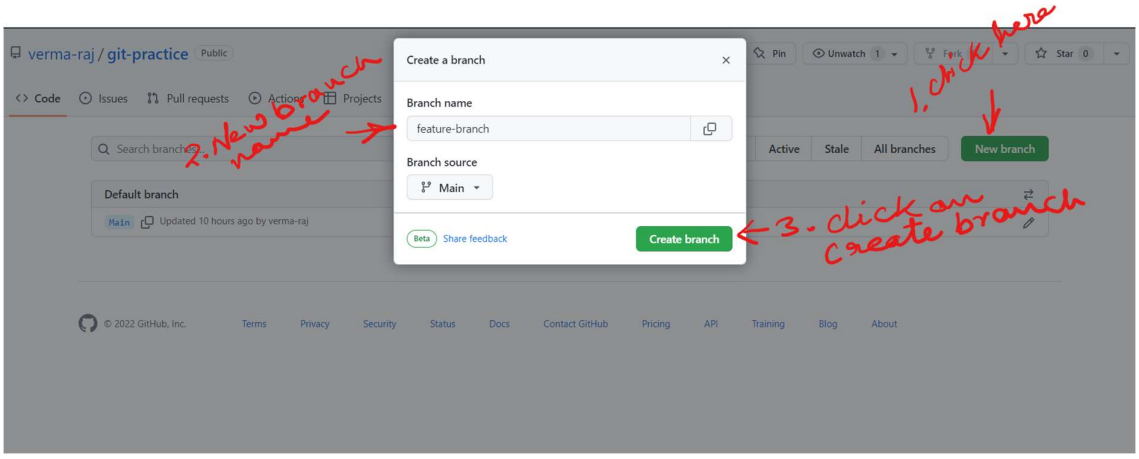
Baseline – the piece of ready code which is getting deployed in production.

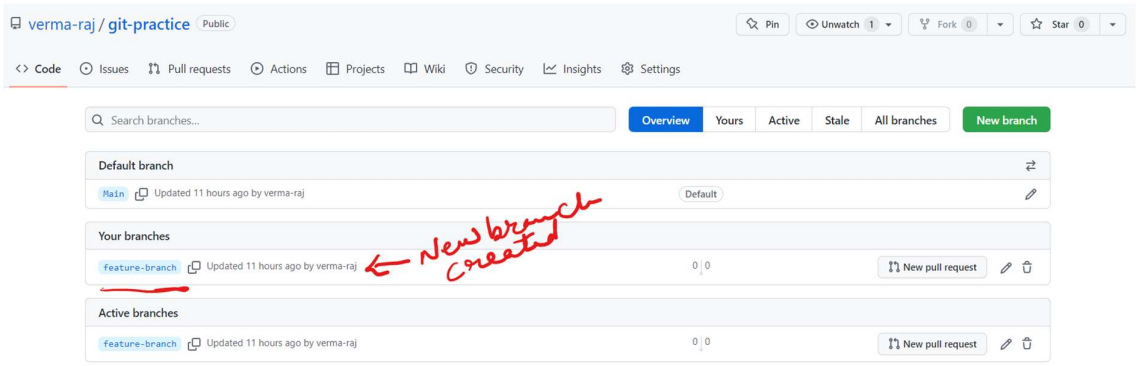
The project/repository contains 4 files, README.md, flower.txt, fruit.txt, test.txt which was released in previous release and is baselined.



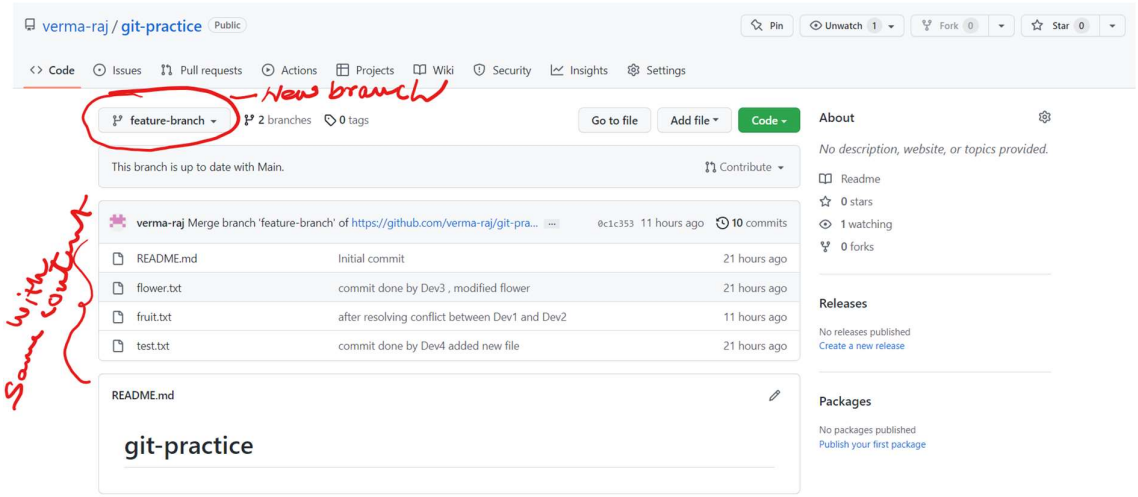
Create a new branch



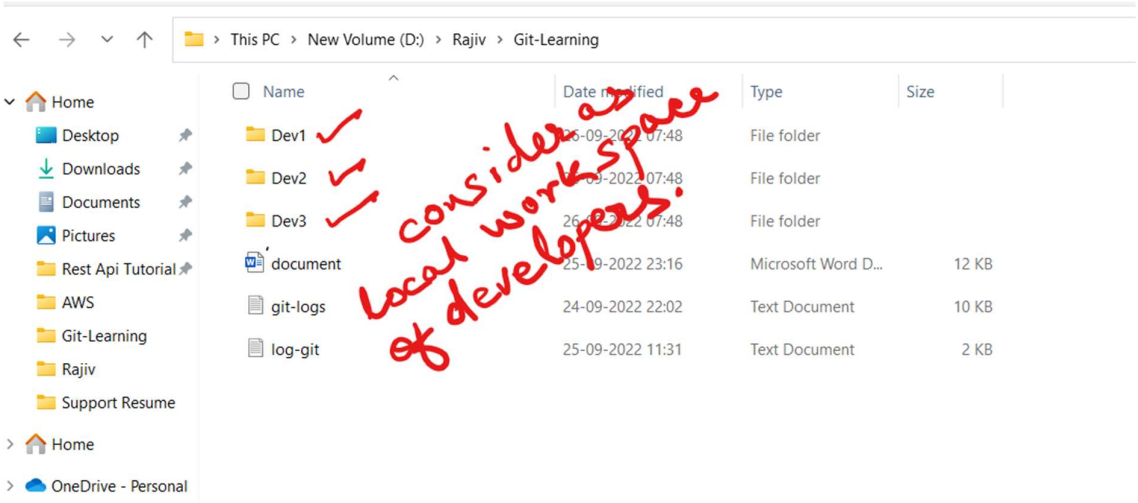




Below screen shot shows new feature-branch with the same content as of main branch.



Now Developer1, Developer2 and Developer 3 is cloning the same branch and will start working on it.



Developer1 starts cloning the branch and so does other developer. They are using visual studio code for their development needs.

PS D:\Rajiv\Git-Learning\Dev1> git clone -b feature-branch https://github.com/verma-raj/git-practice.git

Cloning into 'git-practice'...

remote: Enumerating objects: 28, done.

remote: Counting objects: 100% (28/28), done.

remote: Compressing objects: 100% (18/18), done.

remote: Total 28 (delta 8), reused 17 (delta 5), pack-reused 0

Receiving objects: 100% (28/28), done.

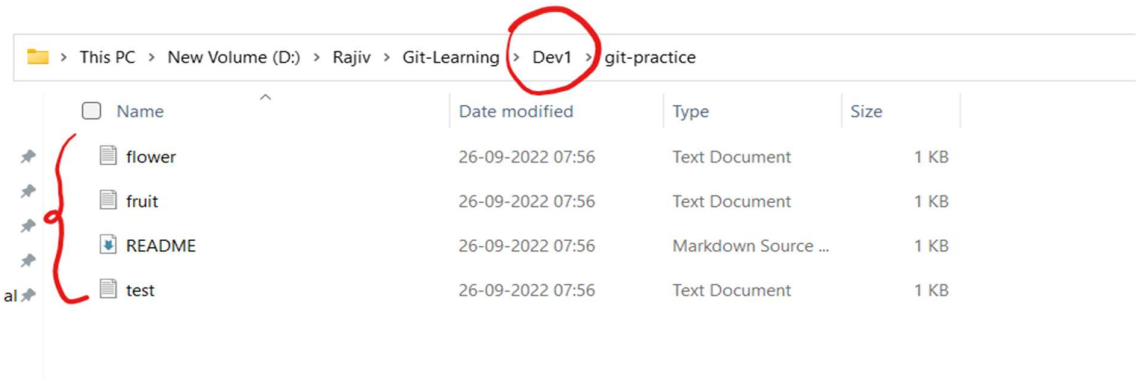
Resolving deltas: 100% (8/8), done.

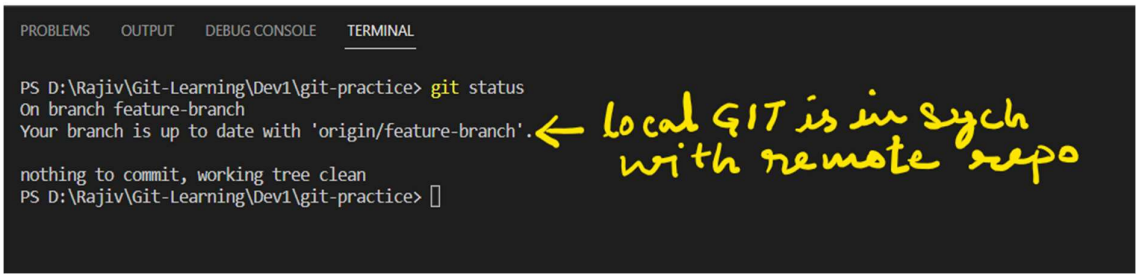
PS D:\Rajiv\Git-Learning\Dev1> cd ..\Dev2\

PS D:\Rajiv\Git-Learning\Dev2> git clone -b feature-branch https://github.com/verma-raj/git-practice.git

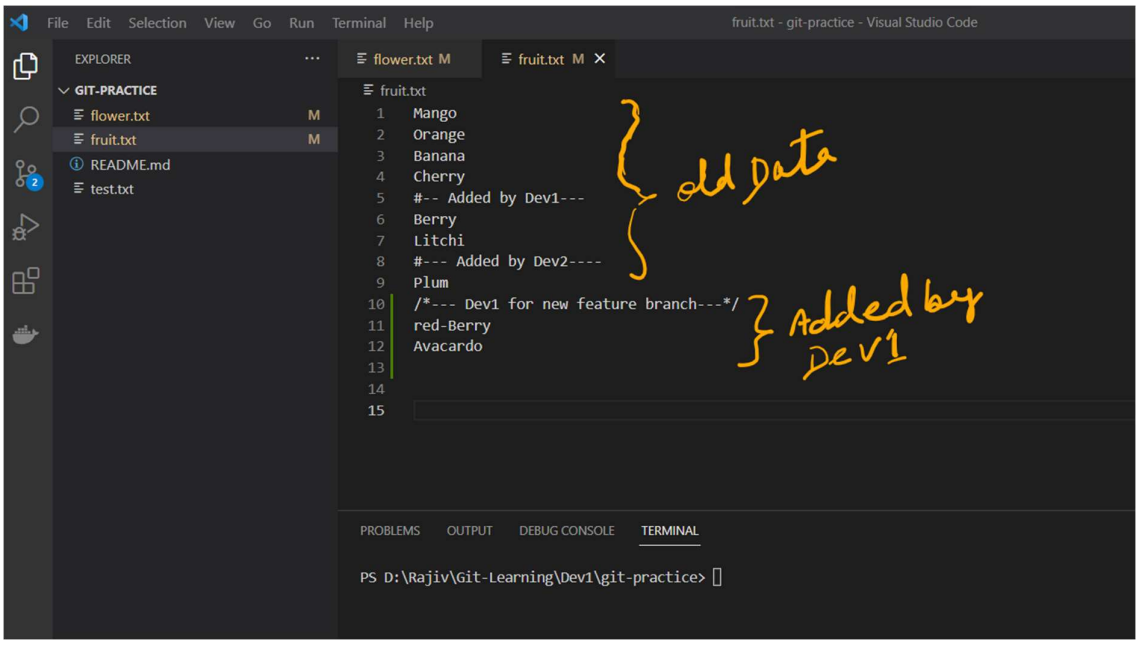
PS D:\Rajiv\Git-Learning\Dev3> git clone -b feature-branch https://github.com/verma-raj/git-practice.git

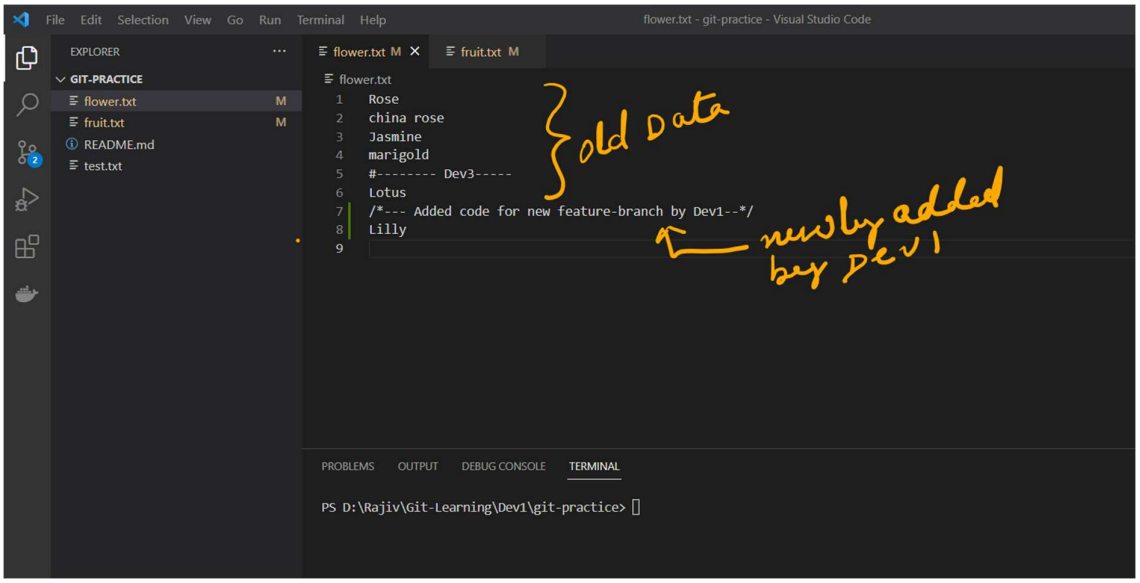
Below screenshot show that the branch has cloned in local workspace, same for other developers.



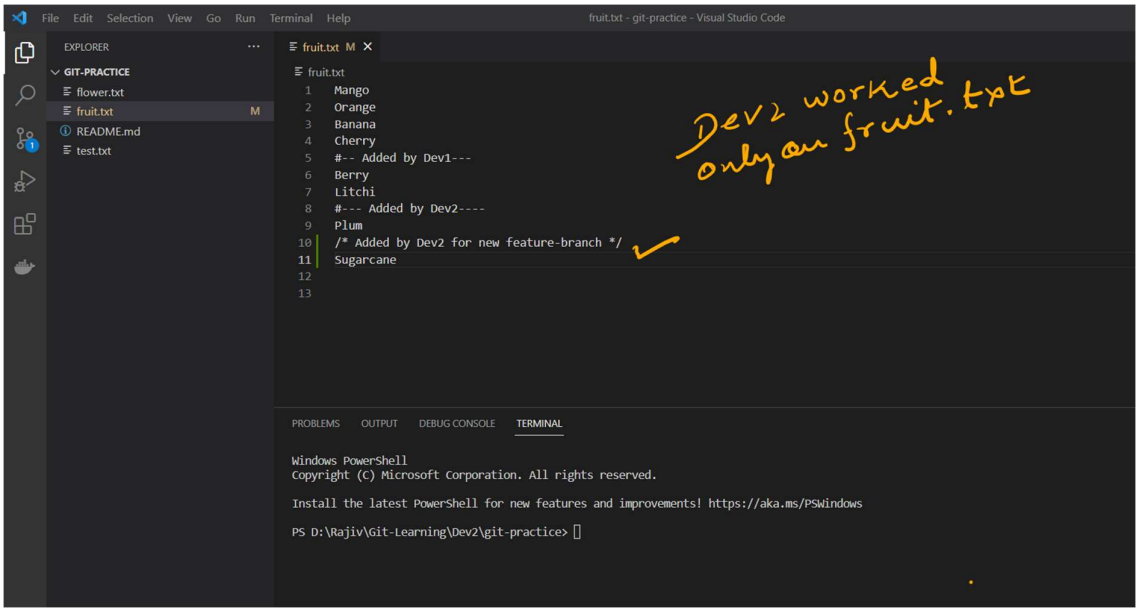


Development starts……

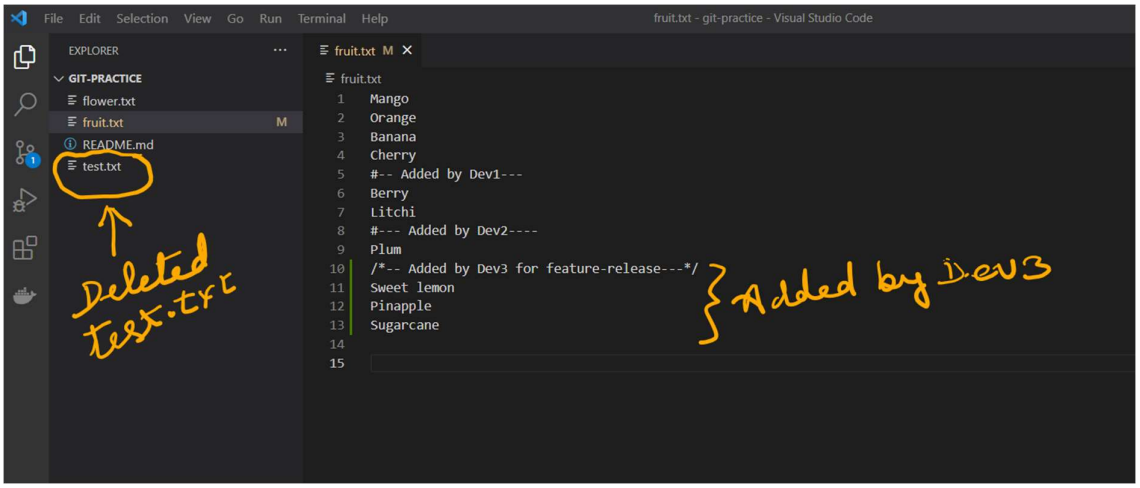


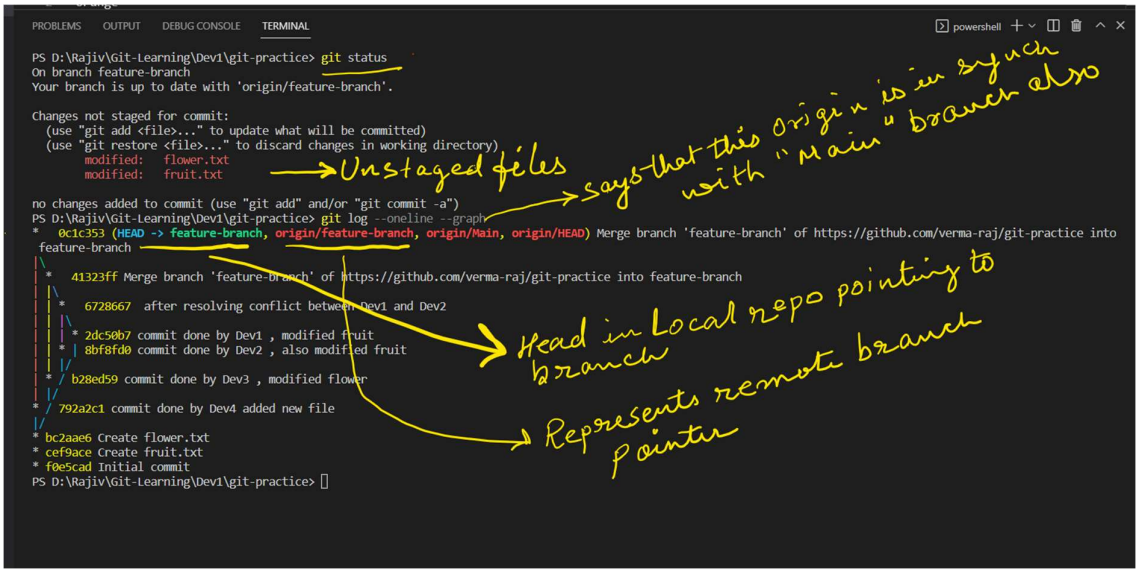


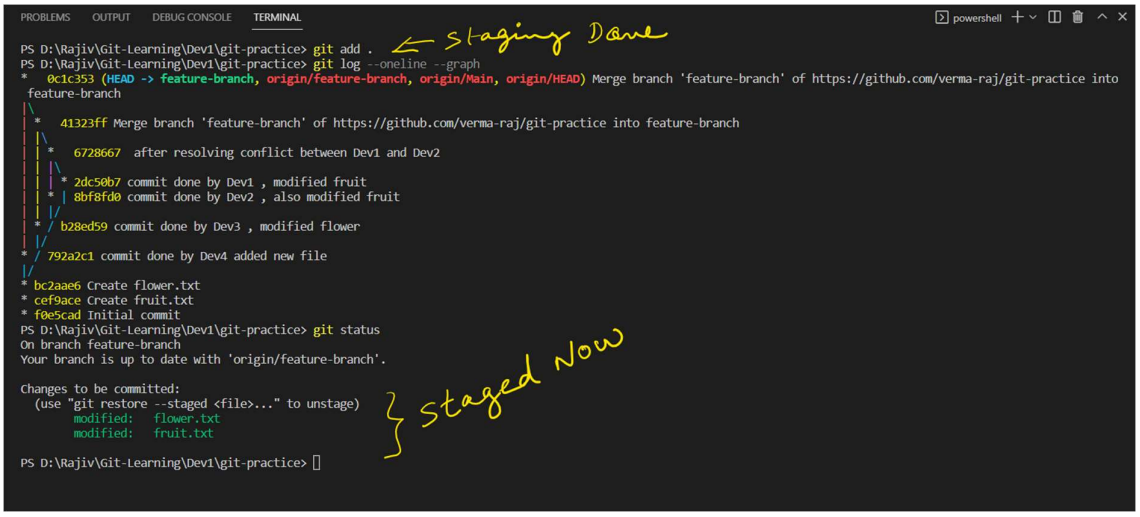
Below done by Dev2

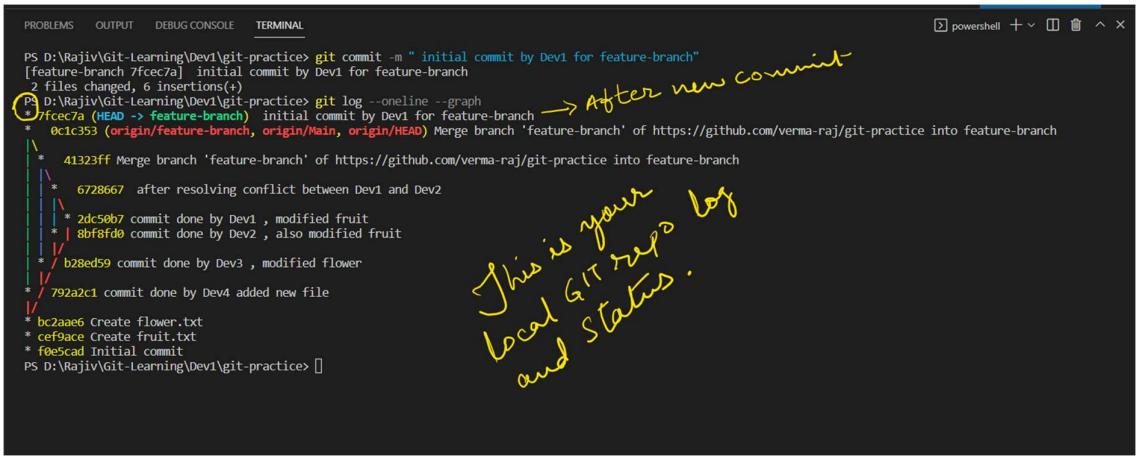


Below done by Dev3.


File Edit Selection View Go Run Terminal Help
fruit.txt - git-practice - Visual Studio Code
EXPLORER
GIT-PRACTICE
flower.txt
fruit.txt M
README.md
test.txt
fruit.txt M
fruit.txt
1 Mango
2 Orange
3 Banana
4 Cherry
5 #-- Added by Dev1---
6 Berry
7 Litchi
8 #--- Added by Dev2----
9 Plum
10 /*-- Added by Dev3 for feature-release---*/
11 Sweet lemon
12 Pinapple
13 Sugarcane
14
15
Deleted test.txt
Added by Dev3

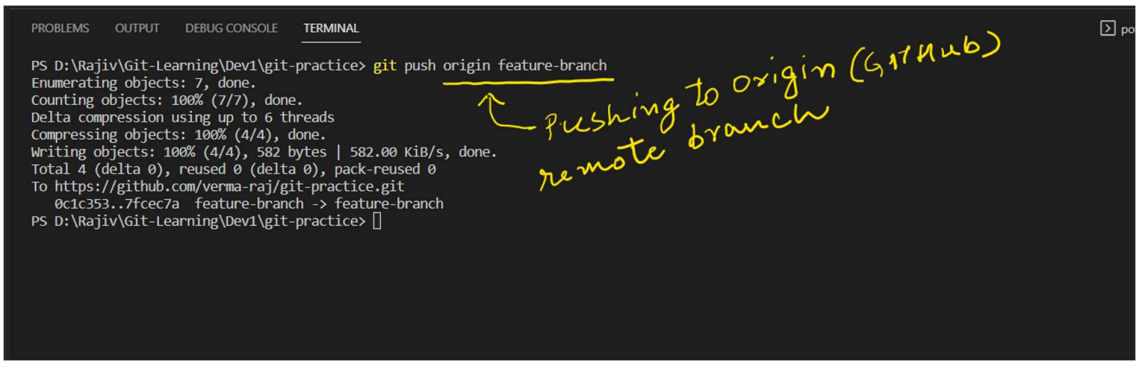

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
powershell
PS D:\Rajiv\Git-Learning\Dev1\git-practice> git status
On branch feature-branch
Your branch is up to date with 'origin/feature-branch'.
Changes not staged for commit:
(use "git add <file>..." to update what will be committed)
(use "git restore <file>..." to discard changes in working directory)
modified: flower.txt
modified: fruit.txt
no changes added to commit (use "git add" and/or "git commit -a")
PS D:\Rajiv\Git-Learning\Dev1\git-practice> git log --oneline --graph
* 0c1c353 (HEAD -> feature-branch, origin/feature-branch, origin/Main, origin/HEAD) Merge branch 'feature-branch' of https://github.com/verma-raj/git-practice into feature-branch
* 41323ff Merge branch 'feature-branch' of https://github.com/verma-raj/git-practice into feature-branch
* 6728667 after resolving conflict between Dev1 and Dev2
* 2dc50b7 commit done by Dev1 , modified fruit
* 8bf8fd0 commit done by Dev2 , also modified fruit
* b28ed59 commit done by Dev3 , modified flower
* 792a2c1 commit done by Dev4 added new file
* bc2aae6 Create flower.txt
* cef9ace Create fruit.txt
* f0e5cad Initial commit
PS D:\Rajiv\Git-Learning\Dev1\git-practice>
Unstaged files
says that this origin is in sync with "Main" branch also
Head in Local repo pointing to branch
Represents remote branch pointer



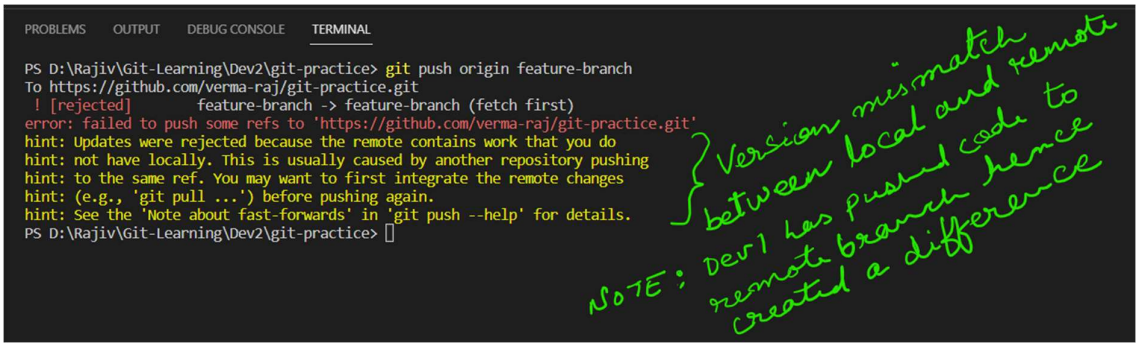


Similarly all other developer has also committed their code to GIT. There is no change in the remote repository (GITHub) branch as no push has been done yet.

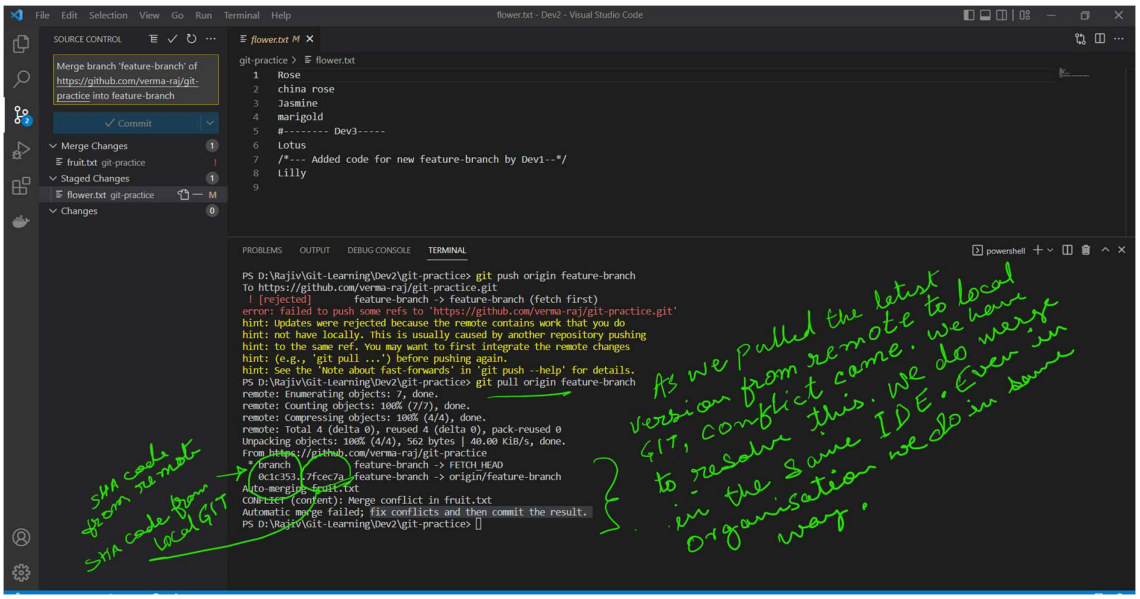
First developer pushed his code to remote branch.

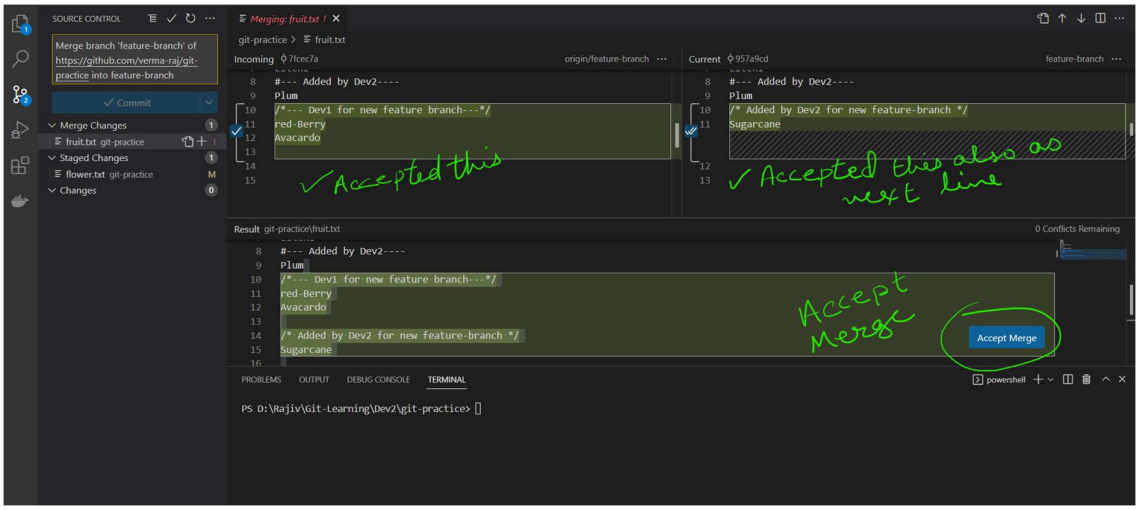


Now when the second developer tries to push the code issue came as there is a mismatch in versions.



Conflict arises





After Accept Merge “push” to origin feature-branch

PS D:\Rajiv\Git-Learning\Dev2\git-practice> git push origin feature-branch

Enumerating objects: 10, done.

Counting objects: 100% (10/10), done.

Delta compression using up to 6 threads

Compressing objects: 100% (6/6), done.

Writing objects: 100% (6/6), 669 bytes | 669.00 KiB/s, done.

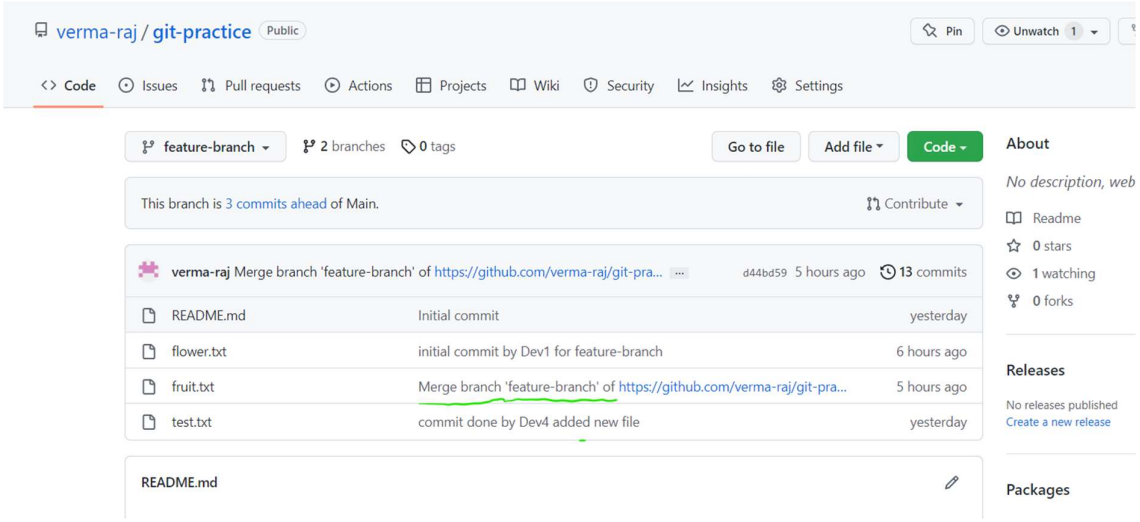
Total 6 (delta 4), reused 0 (delta 0), pack-reused 0

remote: Resolving deltas: 100% (4/4), completed with 3 local objects.

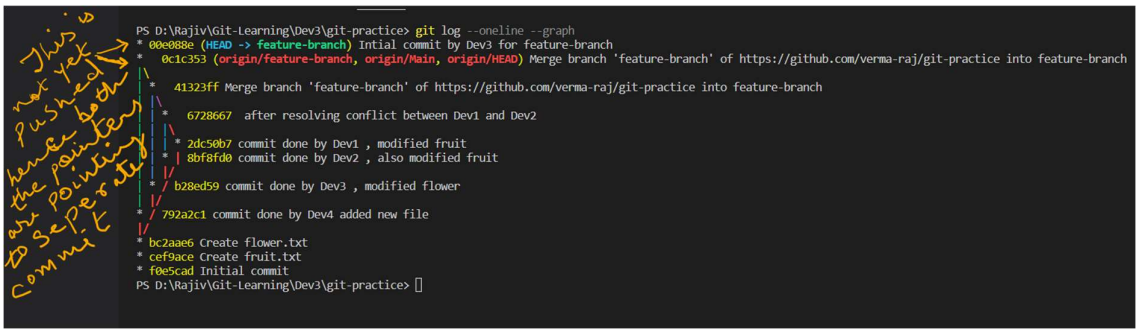
To https://github.com/verma-raj/git-practice.git

  7fcec7a..d44bd59 feature-branch -> feature-branch

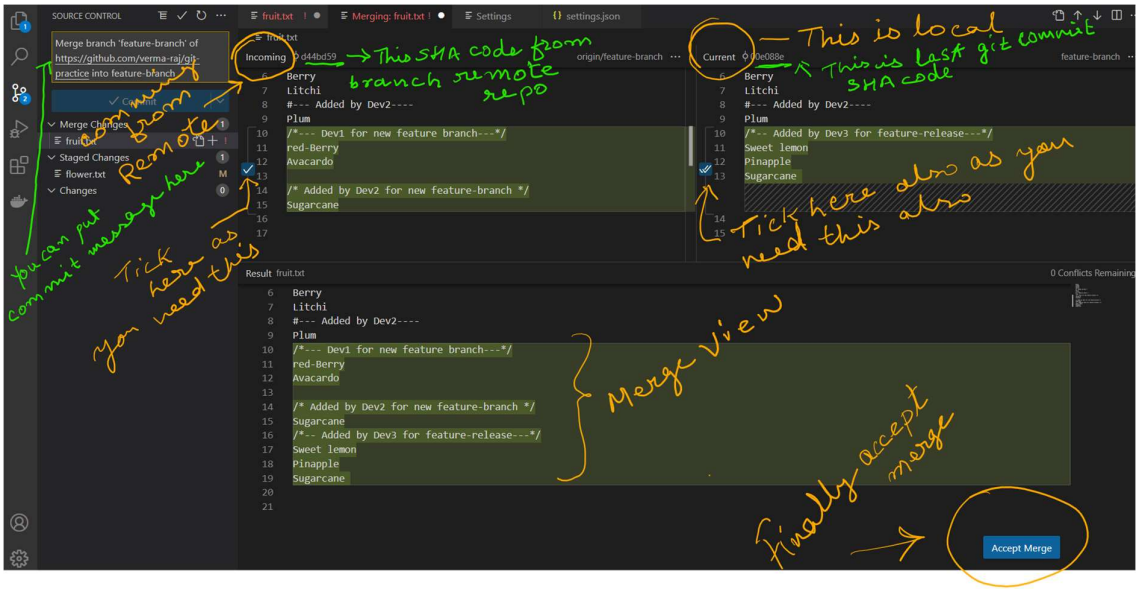
Now the remote branch is updated with the merged file by dev 2.



Now by Dev3 : This is not yet pushed to remote hence Head-→feature-branch and origin/feature-branch are not in synch



Remember: This developer has modified fruit.txt and deleted one file test.txt



PS D:\Rajiv\Git-Learning\Dev3\git-practice> git push origin feature-branch

Enumerating objects: 10, done.

Counting objects: 100% (10/10), done.

Delta compression using up to 6 threads

Compressing objects: 100% (6/6), done.

Writing objects: 100% (6/6), 676 bytes | 676.00 KiB/s, done.

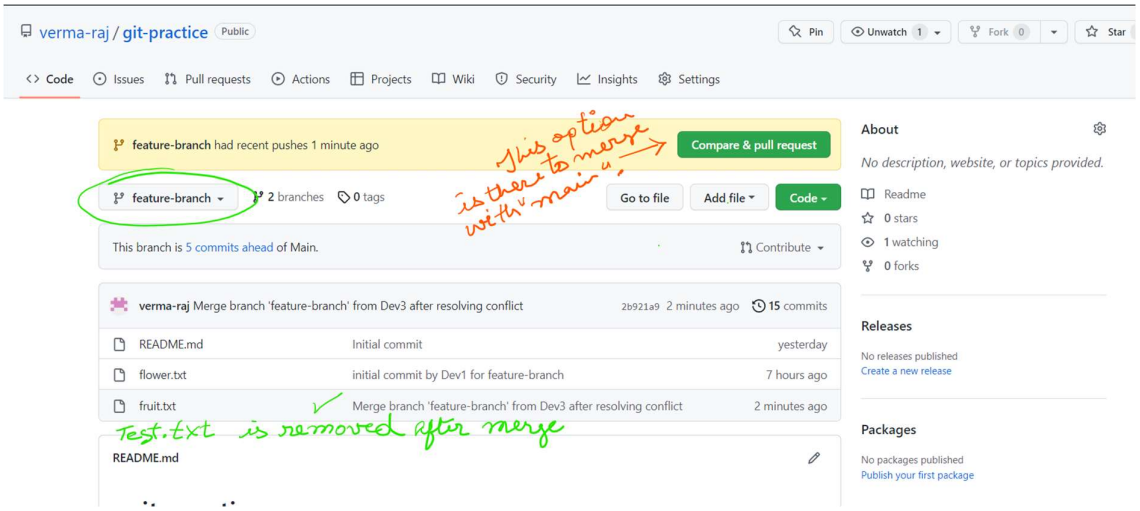
Total 6 (delta 4), reused 0 (delta 0), pack-reused 0

remote: Resolving deltas: 100% (4/4), completed with 3 local objects.

To https://github.com/verma-raj/git-practice.git

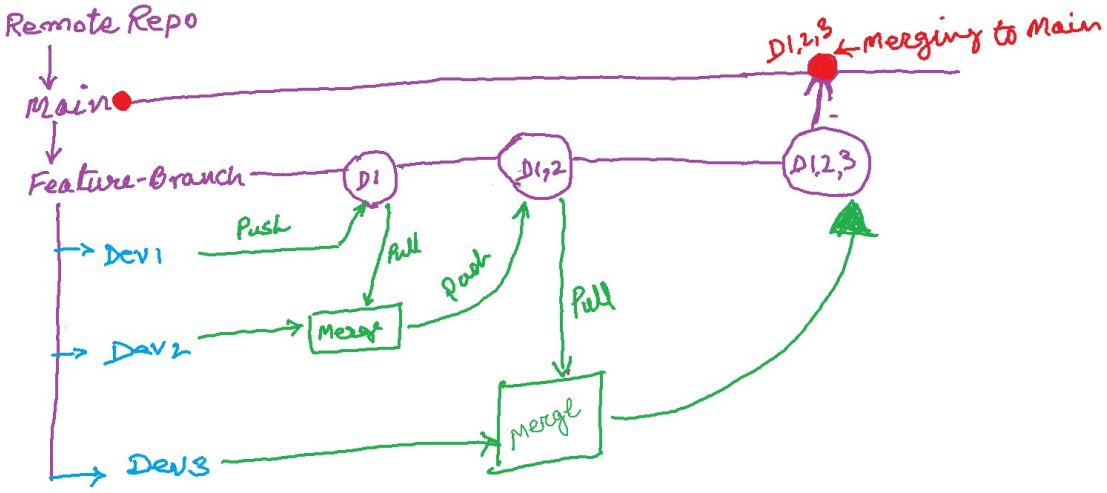
  d44bd59..2b921a9 feature-branch -> feature-branch

PS D:\Rajiv\Git-Learning\Dev3\git-practice>



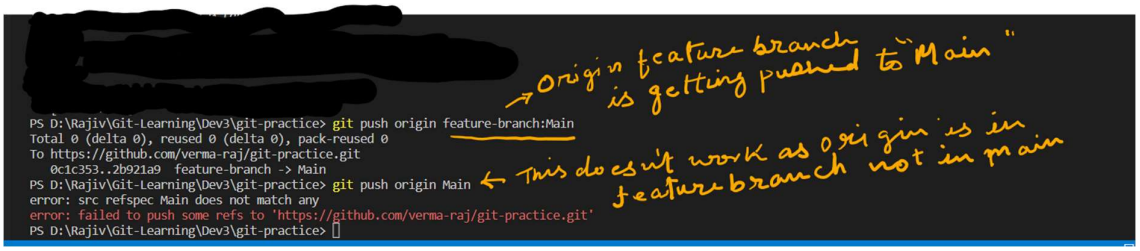
Now my **feature-branch** is merged with all the developer's work

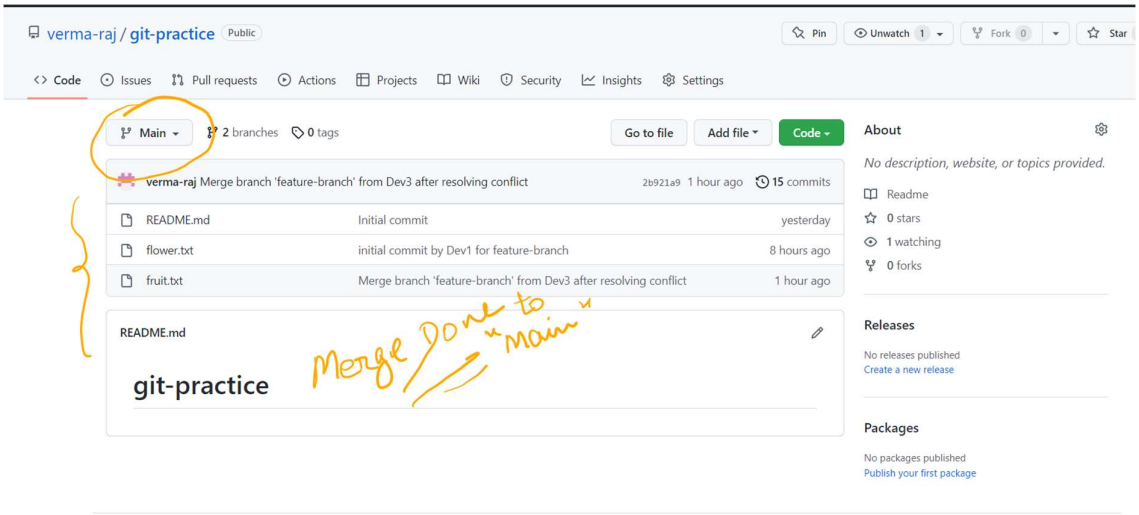
Pictorially we did the below



Pushing feature branch version to main.

Finally branch is merged with “Main” branch




verma-raj / git-practice
Public
Pin
Unwatch 1
Fork 0
Star
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
Main
2 branches
0 tags
Go to file
Add file
Code
verma-raj Merge branch 'feature-branch' from Dev3 after resolving conflict
2b921a9 1 hour ago
15 commits
README.md
Initial commit
yesterday
flower.txt
initial commit by Dev1 for feature-branch
8 hours ago
fruit.txt
Merge branch 'feature-branch' from Dev3 after resolving conflict
1 hour ago
README.md
git-practice
Merge Done to main
About
No description, website, or topics provided.
Readme
0 stars
1 watching
0 forks
Releases
No releases published
Create a new release
Packages
No packages published
Publish your first package