

# **Source Code Management**

## **Task 1.2 and 2**

(CS181)

Submitted by

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Department Name	<b>Department of Computer Science &amp; Engineering</b>		
Programme Name	<b>Bachelor of Engineering (B.E.), Computer Science &amp; Engineering</b>		
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# **ADD COLLABORATORS ON GITHUB**

## **REPO**

In GitHub, we can invite other GitHub users to become collaborators to our private repositories (which expires after 7 days if not accepted, restoring any unclaimed licenses). Being a collaborator, of a personal repository you can pull (read) the contents of the repository and push (write) changes to the repository. You can add unlimited collaborators on public and private repositories.

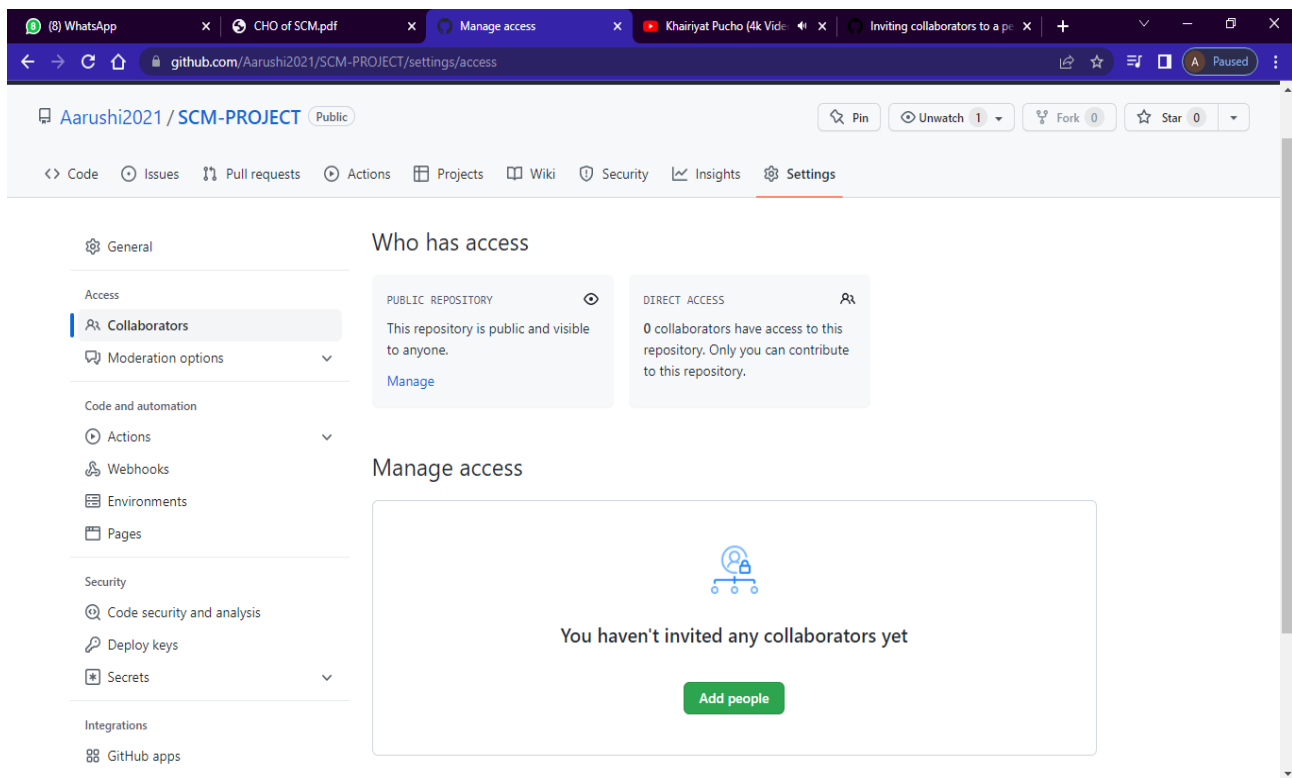


Collaborators can perform a number of actions into someone else's personal repositories, they have gained access to. Some of them are,

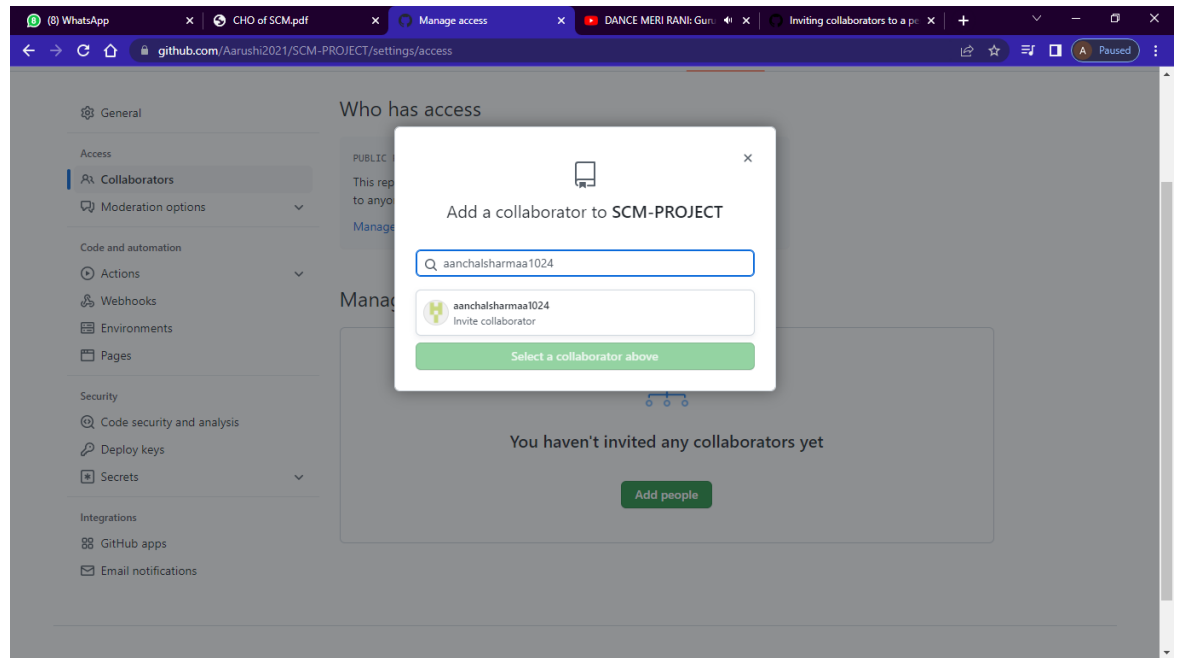
1. Create, merge, and close pull requests in the repository
2. Publish, view, install the packages
3. Fork the repositories
4. Make the changes on the repositories as suggested by the Pull requests.
5. Mark issues or pull requests as duplicate
6. Create, edit, and delete any comments on commits, pull requests, and issues in the repository
7. Removing themselves as collaborators on the repositories.
8. Manage releases in the repositories.

## STEPS TO ADD COLLABORATORS:

1. Navigate to the repository on Github you wish to share with your collaborator.
2. Click on the "Settings" tab on the right side of the menu at the top of the screen.
3. On the new page, click the "Collaborators" menu item on the left side of the page.

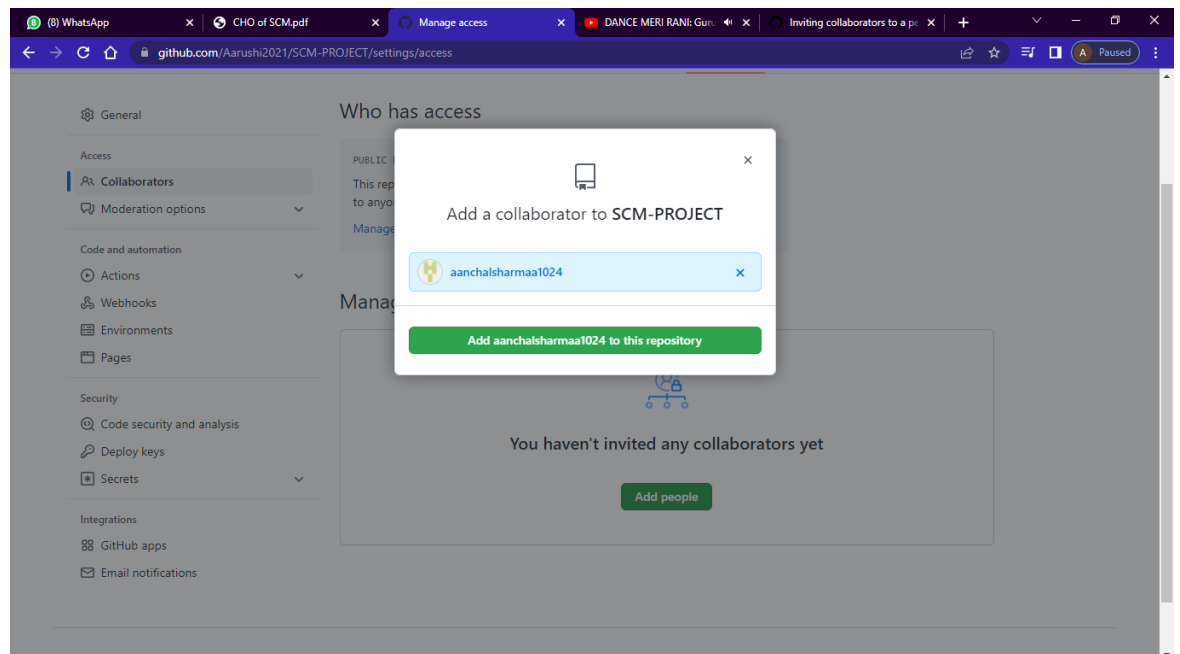


4. Start typing the new collaborator's GitHub username into the text box.



5. Select the GitHub user from the list that appears below the text box.

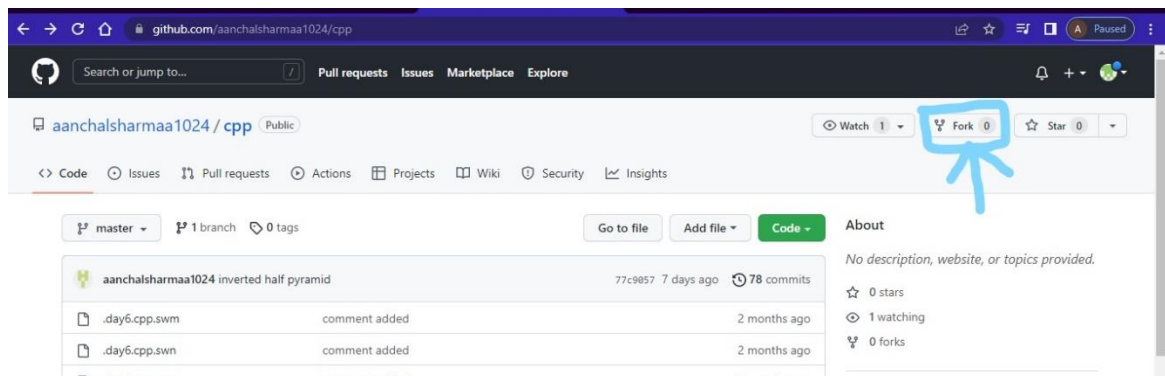
6. Click the "Add" button.



# ***FORK AND COMMIT***

A fork is a copy of a repository. Forking a repository allows you to freely experiment with changes without affecting the original project. Most commonly, forks are used to either propose changes to someone else's project to which you do not have write access, or to use someone else's project as a starting point for your own idea.

## **STEPS TO FORK A REPO-**



1. Go to the repository that you wish to fork.
2. Click on the option 'Fork' in the top right corner.
3. You now have a forked repository.





## CLONING THE REPO INTO YOUR DEVICE

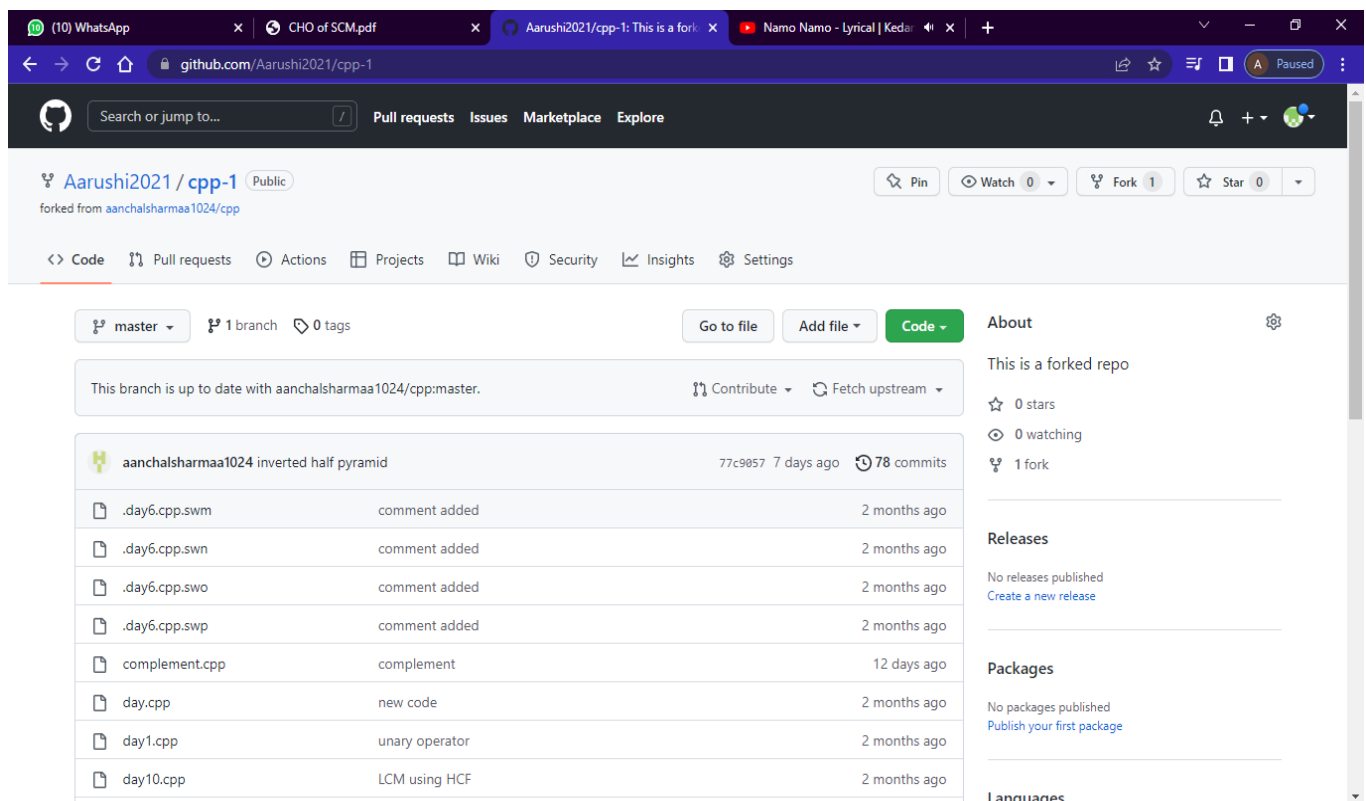
When you create a repository on GitHub.com, it exists as a remote repository. You can clone your repository to create a local copy on your computer and sync between the two locations.

1. Once you have forked the repository, you can clone it into your computer using directly the option given on github or through running git clone command in git bash.

```
HP@LAPTOP-200T1F81 MINGW64 ~ (master)
$ git clone https://github.com/Aarushi2021/cpp-1.git
Cloning into 'cpp-1'...
remote: Enumerating objects: 249, done.
remote: Counting objects: 100% (249/249), done.
remote: Compressing objects: 100% (128/128), done.
remote: Total 249 (delta 139), reused 225 (delta 115),
pack-reused 0Receiving objects: 41% (103/249)
Receiving objects: 100% (249/249), 28.89 KiB | 510.00 K
iB/s, done.
Resolving deltas: 100% (139/139), done.
HP@LAPTOP-200T1F81 MINGW64 ~ (master)
$
```

2. Copy the URL of the forked repository

3. Open git bash and type the command " git clone  
<url of the forked repository> "



## COMMITTING CHANGES TO THE FORKED REPOSITORY

1. Once you have cloned the repository you can introduce changes to it as per your wish.

2. After changing it you have to stage the file and then commit it.
3. After committing changes push it to your remote repository.

```

MINGW64/c/Users/HP/cpp-1
HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (master)
$ git checkout -b newb
Switched to a new branch 'newb'

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (newb)
$ ls
complement.cpp  day11.cpp  day5.cpp  day9.cpp  power.cpp
day.cpp         day2.cpp  day6.cpp  dec.cpp   powerof2.cpp
day1.cpp        day3.cpp  day7.cpp  nested   switch.cpp
day10.cpp       day4.cpp  day8.cpp  patterns.cpp

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (newb)
$ vi day1.cpp

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (newb)
$ git status
On branch newb
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:   day1.cpp

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

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (newb)
$ git remote -v
origin  https://github.com/Aarushi2021/cpp-1.git (fetch)
origin  https://github.com/Aarushi2021/cpp-1.git (push)
    
```

```

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (newb)
$ git add day1.cpp

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (newb)
$ git commit -m "ADDED"
[newb a036d15] ADDED
1 file changed, 9 insertions(+), 9 deletions(-)

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (newb)
$ git push -u origin newb
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 363 bytes | 363.00 KiB/s, done.
Total 3 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To https://github.com/Aarushi2021/cpp-1.git
   77c9057..a036d15  newb -> newb
branch 'newb' set up to track 'origin/newb'.

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (newb)
$
    
```



# ***MERGE AND RESOLVE CONFLICTS CREATED DUE TO OWN ACTIVITY AND COLLABORATORS ACTIVITY***

Merging and conflicts are a common part of the Git experience. Conflicts generally arise when two people have changed the same lines in a file, or if one developer deleted a file while another developer was modifying it. In these cases, Git cannot automatically determine what is correct. Conflicts only affect the developer conducting the merge, the rest of the team is unaware of the conflict. Git will mark the file as being conflicted and halt the merging process. It is then the developers' responsibility to resolve the conflict.

1.To understand the merging concept of branches, create a branch named "feature" in your repository.

```
HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (newb)
$ git branch
* master
  newb

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (newb)
$ git branch feature

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (newb)
$ git checkout feature
Switched to branch 'feature'

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (feature)
$ git log --oneline
a036d15 (HEAD -> feature, origin/newb, newb) ADDED
77c9057 (origin/master, origin/HEAD, master) inverted half pyramid
2bae9ae power
f42bbd9 mini calculator
9667d52 switch
0173bd8 power of 2
31452d4 complement
585e953 binary to dec
78370b2 power of a no. using pow() func
e2d7db5 power of a no.
2e7755b LCM using HCF
56a8c6e to find LCM
2b507b7 reverse a no.
```

2. Here, there is a file called 'day2.cpp'. Make changes to it, add and commit them.

```
HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (feature)
$ vi day2.cpp

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (feature)
$ git add day2.cpp

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (feature)
$ git commit -m "addition of two numbers"
[feature 596bc10] addition of two numbers
1 file changed, 12 insertions(+), 1 deletion(-)

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (feature)
$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (master)
$ ls
complement.cpp  day1.cpp  day11.cpp  day3.cpp  day5.cpp  day7.cpp  day9.cpp  nested  power.cpp  switch.cpp
day.cpp         day10.cpp day2.cpp   day4.cpp  day6.cpp  day8.cpp  dec.cpp   patterns.cpp  powerof2.cpp

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (master)
$ vi day2.cpp

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (master)
$
```

3. Similarly, change the same lines of day2.cpp file in the master branch.

4. If you are not already on the branch that you want the other one to be merged in (in this example master branch), then switch to it.

5. Using the command try merging feature branch into master branch using the "git merge <branch name>"

```
HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (master)
$ git add day2.cpp

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (master)
$ git commit -m "addition of two numbers"
[master e9be400] addition of two numbers
1 file changed, 13 insertions(+), 1 deletion(-)

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (master)
$ git merge feature
Auto-merging day2.cpp
CONFLICT (content): Merge conflict in day2.cpp
Automatic merge failed; fix conflicts and then commit the result.

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (master|MERGING)
$
```



```

}
//break and continue statement
<<<<<< HEAD
//sum of two numbers
//a+b
//sum=a+b
=====
# include<iostream>
using namespace std;
int main(){
int a,b;
cin>>a>>b;
int sum;
sum=a+b;
cout<<"sum"<<sum;
cout<<"hello world";
return 0;
>>>>>> feature
day2.cpp [dos] (20:47 22/05/2022)
-- INSERT --

```

```

cout<<endl;
cin>>n;
}while(n>0);
return 0;
}
//break and continue statement
<<<<<< HEAD
//sum of two numbers
//a+b
//sum=a+b
=====
# include<iostream>
using namespace std;
int main(){
int a,b;
cin>>a>>b;
int sum;
sum=a+b;
cout<<"sum"<<sum;
cout<<"hello world";
return 0;
>>>>>> feature
day2.cpp [dos] (20:48 22/05/2022)
day2.cpp [dos] 59L, 911B
59

```

```

}
//break and continue statement
<<<<<< HEAD
//sum of two numbers
//a+b
//sum=a+b
=====
# include<iostream>
using namespace std;
int main(){
int a,b;
cin>>a>>b;
int sum;
sum=a+b;
cout<<"sum"<<sum;
cout<<"hello world";
return 0;
>>>>>> feature
day2.cpp [dos] (20:47 22/05/2022)
-- INSERT --

```

6.Auto merging fails and conflict arises. In order to resolve it we make use of the mergetool by running the command "git mergetool". The mergetool editor will open.

7.Make changes as per requirement in order to resolve the conflicts and exit the editor.

```

MINGW64/c/Users/HP/cpp-1
branch 'feature' set up to track 'origin/feature'.
HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (master|MERGING)
$ git status
On branch master
Your branch is ahead of 'origin/master' by 5 commits.
(use 'git push' to publish your local commits)

You have unmerged paths.
  (fix conflicts and run "git commit")
  (use "git merge --abort" to abort the merge)

Unmerged paths:
  (use "git add <file>..." to mark resolution)
    both modified:   day2.cpp

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

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (master|MERGING)
234326b (HEAD -> master) merging branches
6646856 hello
23f6a82 (origin/feature, feature) hello
0f91483 sum
e9be400 addition of two numbers
596bc10 addition of two numbers
a036d15 (origin/newb, newb) ADDED
77c9057 (origin/master, origin/HEAD) inverted half pyramid
2bae9ae power
f42bbd9 mini calculator
9667d52 switch
0173bd8 power of 2
31452d4 complement
585e953 binary to dec
234326b (HEAD -> master) merging branches
6646856 hello
23f6a82 (origin/feature, feature) hello
0f91483 sum
e9be400 addition of two numbers
596bc10 addition of two numbers
a036d15 (origin/newb, newb) ADDED
77c9057 (origin/master, origin/HEAD) inverted half pyramid
2bae9ae power
f42bbd9 mini calculator
9667d52 switch
e2d7db5 power of a no.
2e7755b LCM using HCF
56a8c6e to find LCM
2b507b7 reverse a no.
4bc6ac2 freq of char in a str

```

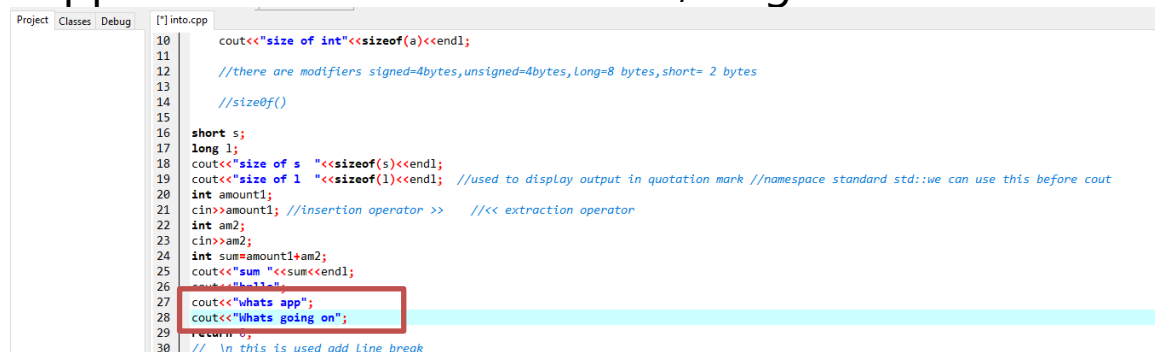
## **RESET AND REVERT**

While Working with Git in certain situations we want to undo changes in the working area or index area, sometimes remove commits locally or remotely and we need to reverse those changes. We can do it by using the git reset, git revert, git checkout commands.

### **RESET-**

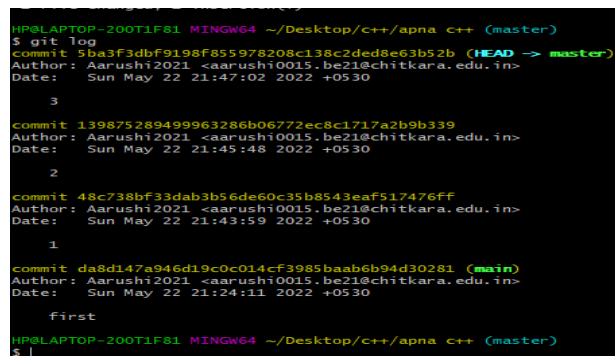
git reset is used when we want to unstage a file and bring our changes back to the working directory. Git reset can also be used to remove commits from the local repository.

Suppose we make edits to a file, stage it and commit it



```

Project | Classes | Debug | [1] into.cpp
10      cout<<"size of int"<<sizeof(a)<<endl;
11
12      //there are modifiers signed=4bytes,unsigned=4bytes,Long=8 bytes,short= 2 bytes
13
14      //sizeof()
15
16      short s;
17      long l;
18      cout<<"size of s " <<sizeof(s)<<endl;
19      cout<<"size of l " <<sizeof(l)<<endl; //used to display output in quotation mark //namespace standard std::we can use this before cout
20
21      int amount1; //insertion operator >> //extraction operator
22      int am2;
23      cin>>am2;
24      int sum=amount1+am2;
25      cout<<"sum "<<sum<<endl;
26      cout<<endl;
27      cout<<"whats app";
28      cout<<"Whats going on";
29      return 0;
30      // \n this is used add line break
  
```



```

HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ git log
commit 5ba3f3dbf9198f855978208c138c2ded8e63b52b (HEAD -> master)
Author: Aarushi2021 <aarushi0015.be21@chitkara.edu.in>
Date: Sun May 22 21:47:02 2022 +0530

3
commit 139875289499963286b06772ec8c1717a2b9b339
Author: Aarushi2021 <aarushi0015.be21@chitkara.edu.in>
Date: Sun May 22 21:45:48 2022 +0530

2
commit 48c738bf33dab3b56de60c35b8543eaf517476ff
Author: Aarushi2021 <aarushi0015.be21@chitkara.edu.in>
Date: Sun May 22 21:43:59 2022 +0530

1
commit da8d147a946d19c0c014cf3985baab6b94d30281 (main)
Author: Aarushi2021 <aarushi0015.be21@chitkara.edu.in>
Date: Sun May 22 21:24:11 2022 +0530

first
HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$
  
```



In order to reset the changes made in the recent commit, run the "git reset --hard HEAD~1" command. Or a command git "reset commit no."

```
HP@LAPTOP-200TIF81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ git reset 48c738bf33dab3b56de60c35b8543eaf517476ff

Unstaged changes after reset:
M   into.cpp

HP@LAPTOP-200TIF81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ git log
commit 48c738bf33dab3b56de60c35b8543eaf517476ff (HEAD -> master)
Author: Aarushi2021 <aarushi0015.be21@chitkara.edu.in>
Date:   Sun May 22 21:43:59 2022 +0530

    1

commit da8d147a946d19c0c014cf3985baab6b94d30281 (main)
Author: Aarushi2021 <aarushi0015.be21@chitkara.edu.in>
Date:   Sun May 22 21:24:11 2022 +0530

    first

HP@LAPTOP-200TIF81 MINGW64 ~/Desktop/c++/apna c++ (master)
$
```

The HEAD returns to the previous commit and the changes made are reset.

```
14 //sizeof()
15
16 short s;
17 long l;
18 cout<<"size of s "<<sizeof(s)<<endl;
19 cout<<"size of l "<<sizeof(l)<<endl; //used to display output in quotation mark //namespace standard std::we can use this before cout
20 int amount1;
21 cin>>amount1; //insertion operator >>    << extraction operator
22 int am2;
23 cin>>am2;
24 int sum=amount1+am2;
25 cout<<"sum "<<sum<<endl;
26 cout<<"hrlllo";
27
28
29 return 0;
```

## REVERT-

git revert is used to remove the commits from the remote repository. git revert removes the commit that we have done but adds one more commit which tells us that the revert has been done.





```

MINGW64/c/Users/HP/Desktop/c++/apna c++
//
// int space=2*n-2*i;
// for(int j=1;j<=space;j++){
//     cout<<" ";
// }
// for(int j=1;j<=i;j++){
//     cout<<"*";
// }
// cout<<endl;
// }
// }
// for(int i=n;i>=1;i--){
//     for(int j=1;j<=i;j++){
//         cout<<"*";
//     }
//     int space=2*n-2*i;
//     for(int j=1;j<=space;j++){
//         cout<<" ";
//     }
//     for(int j=1;j<=i;j++){
//         cout<<"*";
//     }
//     cout<<endl;
// }
// }
// }

#include <iostream>
using namespace std;
int main(){
    int n;
    cin>>n;
    for(int i=1;i<=n;i++){
        for(int j=1;j<=n-i+1;j++){
            cout<<j<<" ";
        }
        cout<<endl;
    }
    cout<<"Hello world";
    return 0;
}

pattern1.cpp [dos] (18:30 28/05/2022)
-- INSERT --

```

In order to understand it add changes to a file, stage and commit it.

```

MINGW64/c/Users/HP/Desktop/c++/apna c++

HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ ls
exception.cpp exception.exe into.cpp pattern1.cpp pattern1.exe polynomials.cpp template.cpp template.exe

HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ vi patterns.cpp

HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ vi pattern1.cpp

HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ git add .

```

```

MINGW64/c/Users/HP/Desktop/c++/apna c++
bash: syntax error: unexpected end of file

HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ git add .

HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ git commit -m "second"
On branch master
nothing to commit, working tree clean

HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ gitlog
bash: gitlog: command not found

HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ git log
commit 8ef9f87c7673757d49bb6126903a962c9738bb6 (HEAD -> master)
Author: Aarushi2021 <aarushi10015.be218@chitkara.edu.in>
Date: Tue May 31 15:15:35 2022 +0530

    first

commit 862f0d27186d5c1fe9f7d9823cd3b3bbe3104513 (origin/master, aarushi)
Author: Aarushi2021 <aarushi10015.be218@chitkara.edu.in>
Date: Sun May 22 22:09:46 2022 +0530

    revert

commit 51afcb09249b6c26ca182f134c6343248bb003cb
Author: Aarushi2021 <aarushi10015.be218@chitkara.edu.in>
Date: Sun May 22 22:08:02 2022 +0530

    reset

commit c29dd7fbbf02a08576ed790b25a93b280586e695
Author: Aarushi2021 <aarushi10015.be218@chitkara.edu.in>
Date: Sun May 22 22:06:50 2022 +0530

    2

commit 48c738bf33dab3b56de60c31b8543eaf517476ff
Author: Aarushi2021 <aarushi10015.be218@chitkara.edu.in>
Date: Sun May 22 21:43:59 2022 +0530

    1

commit da8d147e946d19c0c014cf3985baab6b94d30281 (main)
Author: Aarushi2021 <aarushi10015.be218@chitkara.edu.in>
Date: Sun May 22 21:24:11 2022 +0530

```

Now to revert the changes made in the commit run the "git revert <commit id>" command.

```

MINGW64:/c/Users/HP/Desktop/c++/apna c++
delete mode 100644 pract1.exe
delete mode 100644 practice.cpp
delete mode 100644 practice.exe
create mode 100644 template.cpp
create mode 100644 template.exe

HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ git status
On branch master
nothing to commit, working tree clean

HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ git log'
>
bash: unexpected EOF while looking for matching ``'
bash: syntax error: unexpected end of file

HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ git add .

Revert "first"

```

```

create mode 100644 number is even or not.cpp
create mode 100644 number is even or not.exe
delete mode 100644 pattern1.cpp
delete mode 100644 patterns.cpp
delete mode 100644 polynomials.cpp
create mode 100644 pract1.cpp
create mode 100644 pract1.exe
create mode 100644 practice.cpp
create mode 100644 practice.exe
delete mode 100644 template.cpp
delete mode 100644 template.exe

HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ ls
3.2 lecture.cpp      'To find maximum of 3no..exe*'  boysituation.cpp  intro.exe*      'number is even or not.exe*'  practice.cpp
'3.2 lecture.exe*'   'area of rectangle.cpp*'       boysituation.exe* intro.exe*      'number is even or not.cpp'   'pract1.cpp
'To find maximum of 3no..cpp' 'area of rectangle.exe*'       intro.cpp         'number is even or not.cpp'   'pract1.exe'
HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ git status
On branch master
nothing to commit, working tree clean

HP@LAPTOP-200T1F81 MINGW64 ~/Desktop/c++/apna c++ (master)
$ |

```

You can see that a new commit as 'revert "changes made"' is there and the file has returned to its previous state.



## Task 2

S. No.	Title
1	Introduction
2	Creating a repo
3	Open and Close Pull request
4	Fork ,clone and creating pull request



## **CREATE A DISTRIBUTED REPOSITORY AND ADD MEMBERS IN PROJECT TEAM**

1. On the homepage of your GitHub account, click on Repositories option in the menu bar.
2. Click on the 'New' button in the top right corner.
3. Enter the Repository name and add the description of the repository.
4. To add members to your repository, open your repository and select settings option in the navigation bar.
5. Click on Collaborators option under the access tab.
6. You can manage access and add/remove team members to your project.
7. To add members, click on the add people option and search the id of your respective team member.



Aarushi2021 / SCM-PROJECT
Public
Pin
Unwatch 1
Fork 0
Star 0

Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings

General
Collaborators
Moderation options
Code and automation
Actions
Webhooks
Environments
Pages
Security
Code security and analysis
Deploy keys
Secrets
Integrations

### Who has access

PUBLIC REPOSITORY
This repository is public and visible to anyone.
Manage

DIRECT ACCESS
0 collaborators have access to this repository. Only you can contribute to this repository.

### Manage access

You haven't invited any collaborators yet

Add people

(8) WhatsApp
CHO of SCM.pdf
Manage access
DANCE MERI RANI: Gur...
Inviting collaborators to a pe...
github.com/Aarushi2021/SCM-PROJECT/settings/access
Paused

General
Collaborators
Moderation options
Code and automation
Actions
Webhooks
Environments
Pages
Security
Code security and analysis
Deploy keys
Secrets
Integrations
GitHub apps
Email notifications

### Who has access

PUBLIC REPOSITORY
This repository is public and visible to anyone.
Manage

### Manage access

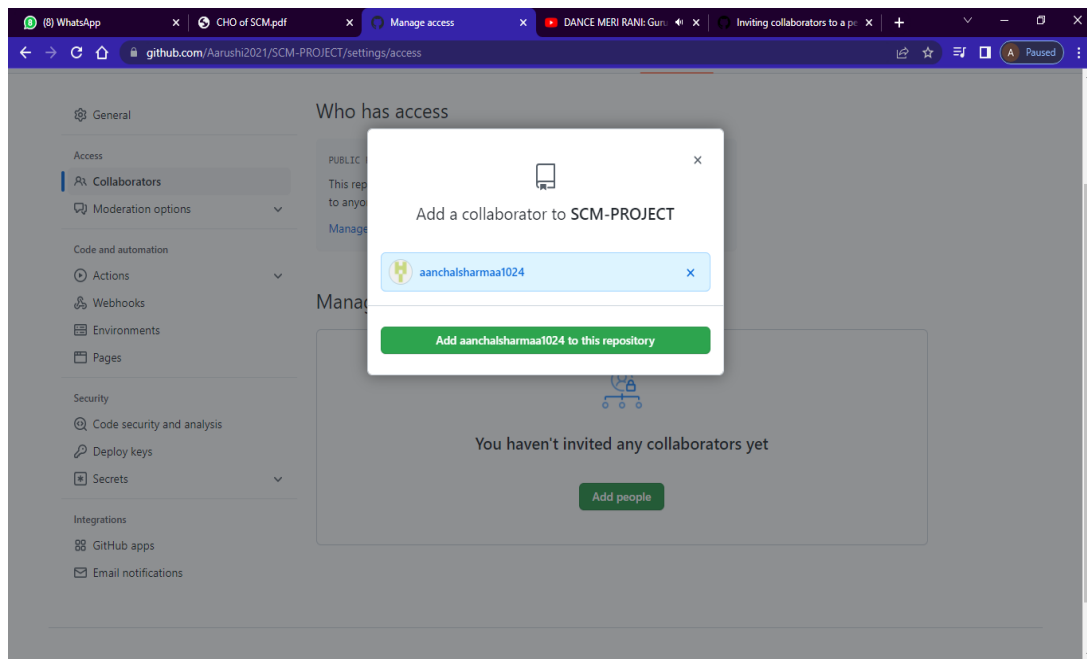
You haven't invited any collaborators yet

Add people

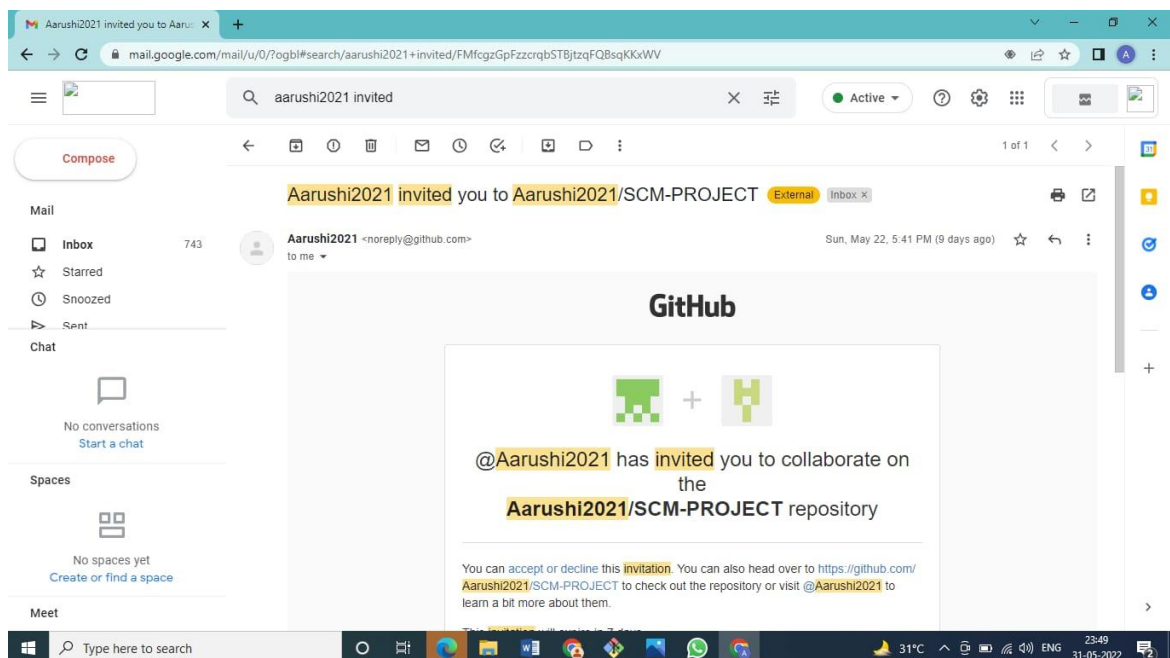
Add a collaborator to SCM-PROJECT

aanchalsharma1024  
Invite collaborator

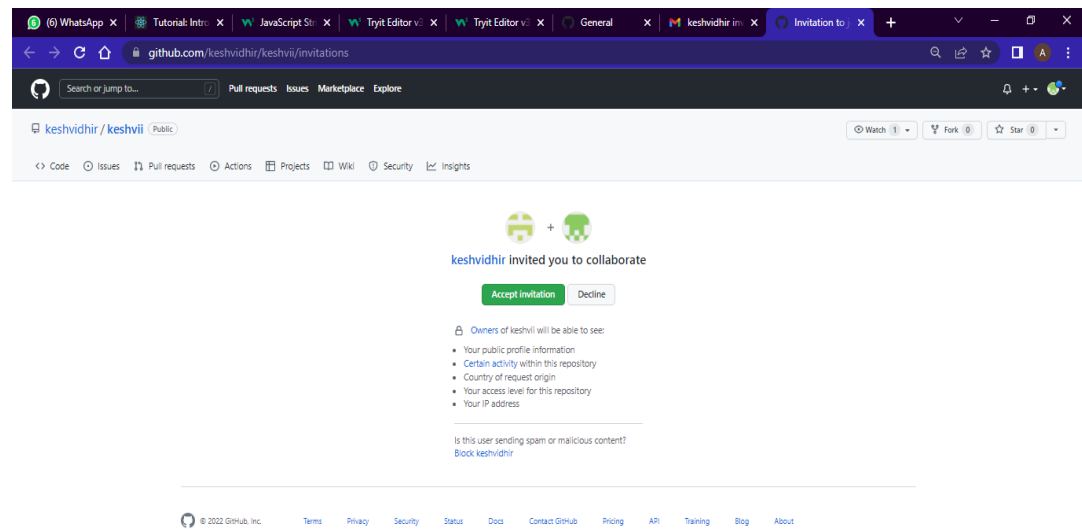
Select a collaborator above



8. To accept the invitation from your team member, open your email registered with GitHub.
9. You will receive an invitation mail from the repository owner. Open the email and click on accept invitation.



10. You will be redirected to GitHub where you can either select to accept or decline the invitation.



Similarly, you can add more collaborators to your project.

## **OPEN AND CLOSE A PULL REQUEST**

1. First, select a repository of the other person in which you want to make changes and create a pull request.
2. Clone it into your local storage.
3. To open a pull request we first have to make a new branch, by using git checkout -b *branch name* option.
4. After making new branch we add a file to the branch or make changes in the existing file.
5. Add and commit the changes to the local repository.

```

MINGW64/c/Users/HP
HP@LAPTOP-200T1F81 MINGW64 ~ (master)
$ git clone https://github.com/Aarushi2021/SCM-PROJECT.git
Cloning into 'SCM-PROJECT'...
warning: You appear to have cloned an empty repository.
HP@LAPTOP-200T1F81 MINGW64 ~ (master)
$ git clone https://github.com/Aarushi2021/cpp-1.git
Cloning into 'cpp-1'...
remote: Enumerating objects: 249, done.
remote: Counting objects: 100% (249/249), done.
remote: Compressing objects: 100% (128/128), done.
remote: Total 249 (delta 139), reused 225 (delta 115),
pack-reused 0Receiving objects: 41% (103/249)
Receiving objects: 100% (249/249), 28.89 KiB | 510.00 K
iB/s, done.
Resolving deltas: 100% (139/139), done.
HP@LAPTOP-200T1F81 MINGW64 ~ (master)
$

```

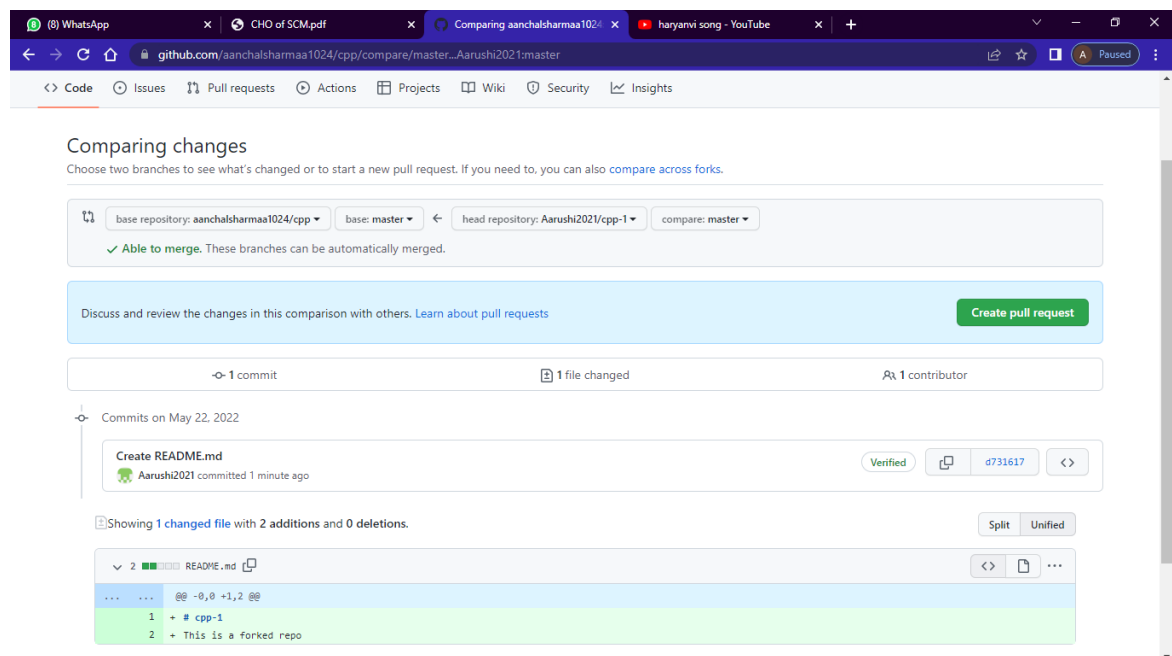
6. Use git push origin *branch name* option to push the new branch to the main repository.

```

HP@LAPTOP-200T1F81 MINGW64 ~/cpp-1 (newb)
$ git push -u origin newb
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'newb' on GitHub by visiting:
remote:   https://github.com/Aarushi2021/cpp-1/pull/new/newb
remote:
To https://github.com/Aarushi2021/cpp-1.git
 * [new branch] newb -> newb
branch 'newb' set up to track 'origin/newb'.

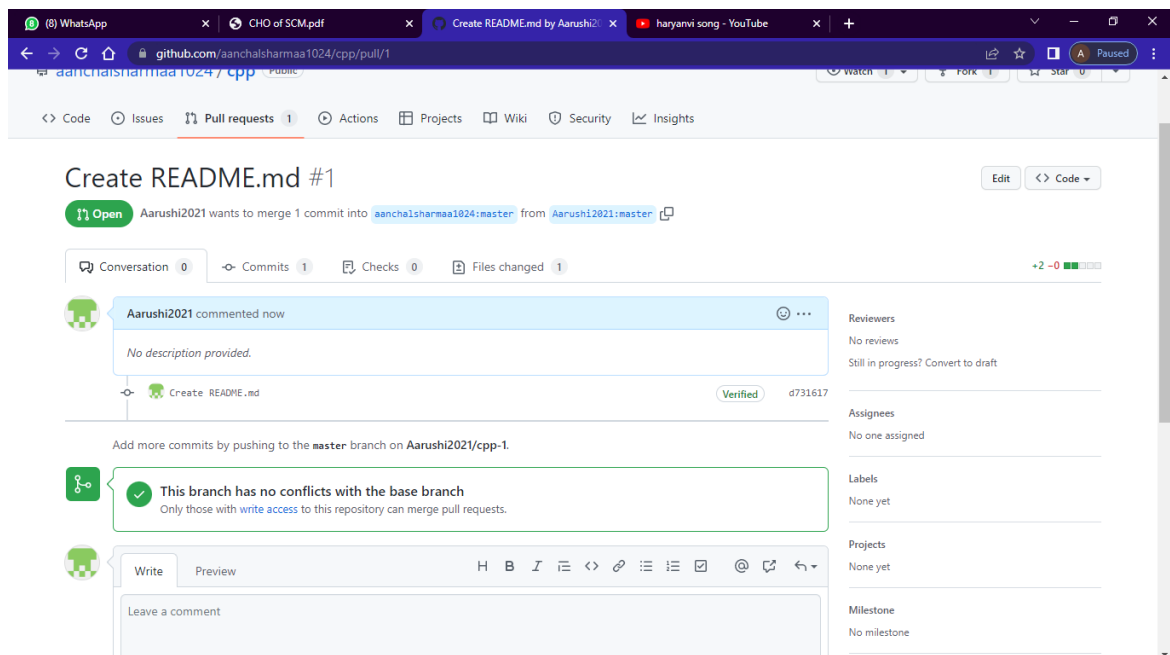
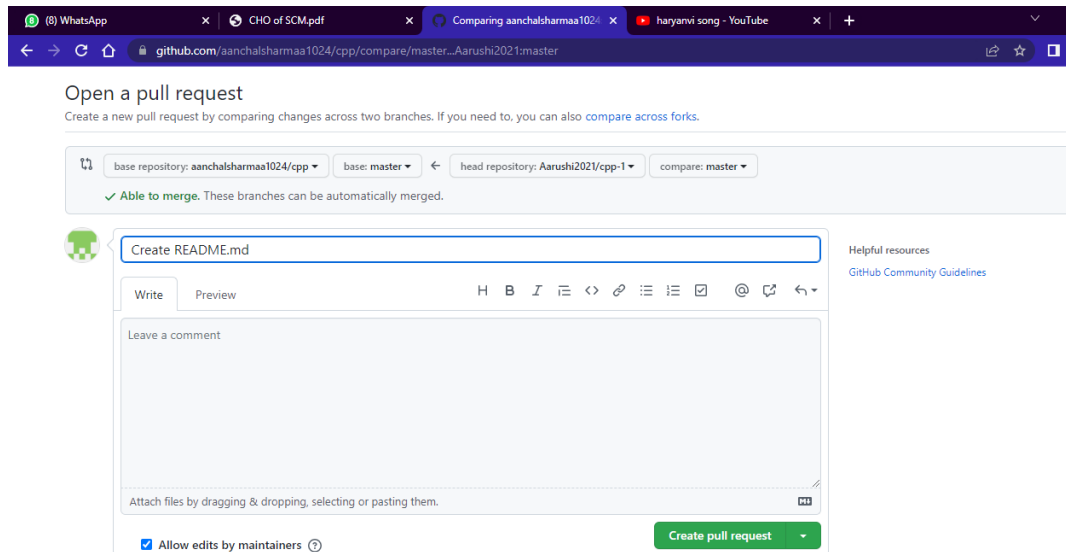
```

7. After pushing new branch GitHub will either automatically ask you to create a pull request or you can create your own pull request.



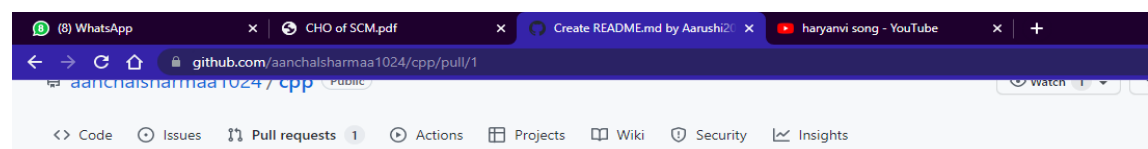


8. To create your own pull request, click on pull request option.

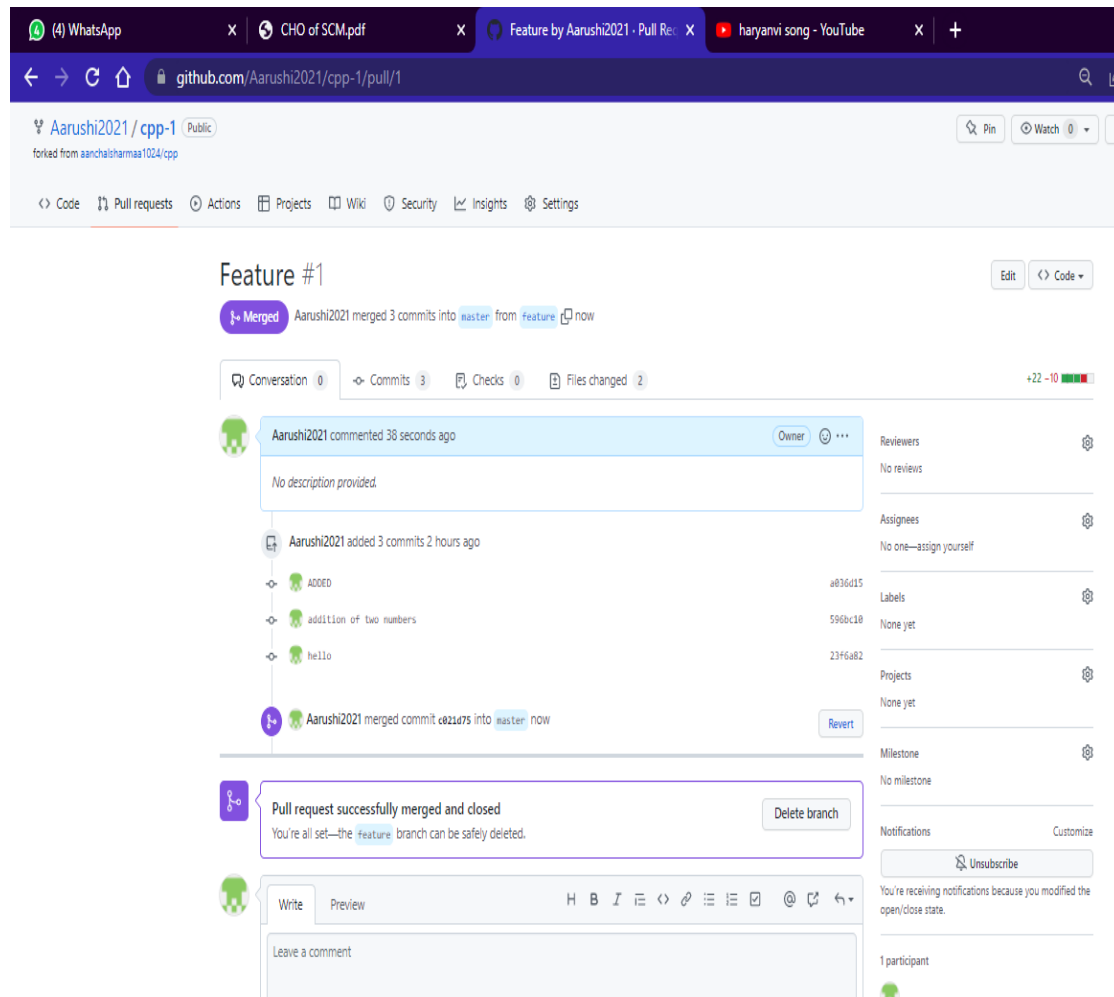


9. GitHub will detect any conflicts and ask you to enter a description of your pull request.

10. After opening a pull request the owner of the original repository will be sent the request if they want to merge or close the request.



- 11.If the owner chooses not to merge your pull request, they will close it.
- 12.To close the pull request simply click on close pull request and add comment/ reason why you closed the pull request.
- 13.If you want to merge it into the original, click on merge pull request.



## **CREATE A PULL REQUEST ON A TEAM MEMBER'S REPO AND CLOSE PULL REQUESTS GENERATED BY TEAM MEMBERS ON OWN REPOSITORY AS A MAINTAINER**

### #OPENING PULL REQUESTS ON TEAM MEMBER'S REPOSITORY

1. Do the required changes in the repository, add and commit these changes in the local repository in a new branch.
2. Push the modified branch using `git push origin branchname`.

MINGW64: c:/Users/HP/Desktop/2110990015\_G01-2

```
HP@DESKTOP-6TA425K MINGW64 ~/Desktop (master)
$ git clone git@github.com:aanchalsharmaa1024/2110990015_G01-2.git
Cloning into '2110990015_G01-2'...
Enter passphrase for key '/c/Users/HP/.ssh/id_ed25519':
remote: Enumerating objects: 11, done.
remote: Counting objects: 100% (11/11), done.
remote: Compressing objects: 100% (8/8), done.
Receiving objects: 100% (11/11), done.
Resolving deltas: 100% (1/1), done.
remote: Total 11 (delta 1), reused 7 (delta 1), pack-reused 0

HP@DESKTOP-6TA425K MINGW64 ~/Desktop (master)
$ ls
2110990009/                                Zoom.lnk*
2110990009_3SE.pdf                         abhishek_2110990069/
'2110990009_linux.docx - Copy.docx'        desktop.ini
2110990009_linux.docx.docx                 'gfgd (40).jpg'
2110990013_G01/                            javascript/
2110990015_G01/                            js/
2110990015_G01-2/                          react/
'Microsoft Edge.lnk'*                      www.youtube.com.url
'Person 1 - Chrome.lnk'*                   '~$10990009_linux.docx - Copy.docx'

HP@DESKTOP-6TA425K MINGW64 ~/Desktop (master)
$ cd 2110990015_G01-2/

HP@DESKTOP-6TA425K MINGW64 ~/Desktop/2110990015_G01-2 (master)
$ ls
binarysearch.cpp

HP@DESKTOP-6TA425K MINGW64 ~/Desktop/2110990015_G01-2 (master)
$ git branch aanchal

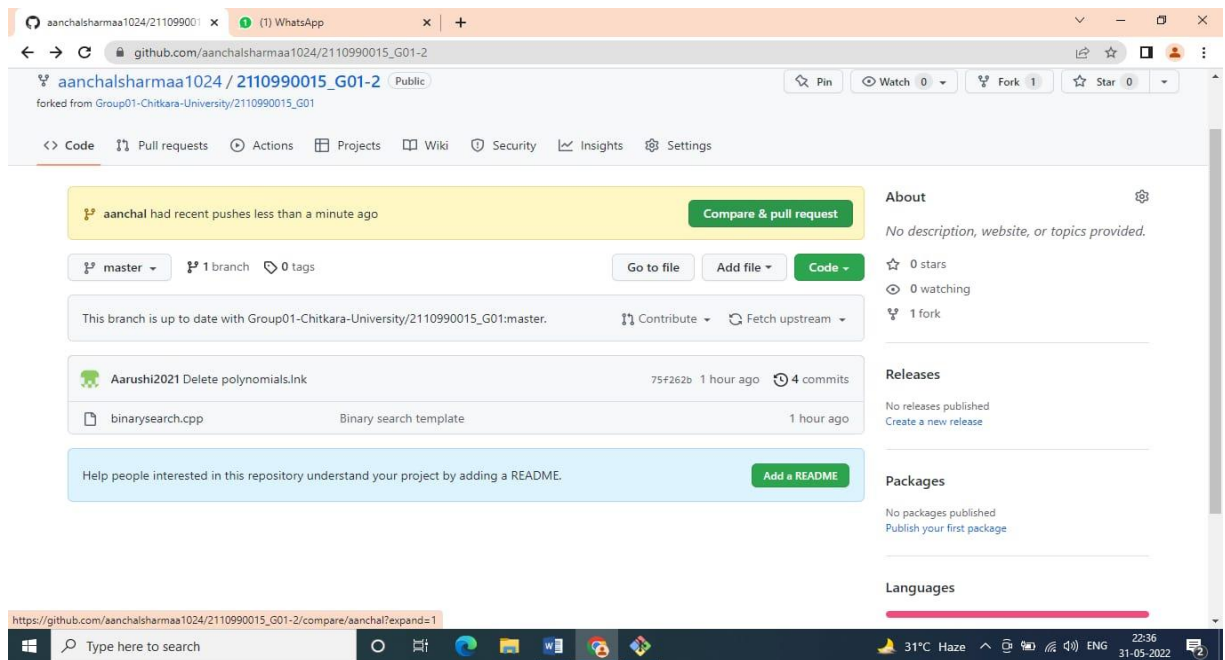
HP@DESKTOP-6TA425K MINGW64 ~/Desktop/2110990015_G01-2 (master)
```

```
HP@DESKTOP-6TA425K MINGW64 ~/Desktop/2110990015_G01-2 (aanchal)
$ git commit -m "search func added"
[aanchal d64bfd3] search func added
1 file changed, 6 insertions(+), 1 deletion(-)

HP@DESKTOP-6TA425K MINGW64 ~/Desktop/2110990015_G01-2 (aanchal)
$ git push -u origin aanchal
Enter passphrase for key '/c/Users/HP/.ssh/id_ed25519':
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), 404 bytes | 404.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote: Create a pull request for 'aanchal' on GitHub by visiting:
remote:   https://github.com/aanchalsharmaa1024/2110990015_G01-2/pull/new/aanchal
remote:
To github.com:aanchalsharmaa1024/2110990015_G01-2.git
 * (new branch)   aanchal -> aanchal
branch 'aanchal' set up to track 'origin/aanchal'.

HP@DESKTOP-6TA425K MINGW64 ~/Desktop/2110990015_G01-2 (aanchal)
$
```

3. Open a pull request by following the procedure from the above experiment.
4. The pull request will be created and will be visible to all the team members.



5. Click on compare & pull request option appearing at the top.
6. After you enter a description, click on the open request button.
7. Pull request has been sent to your team member. They can choose to either close the pull request or merge it.
8. Suppose they merged it, then the changes you made to the forked repository will be introduced into the owner's original repository and you will be notified about merging.

search func added by aanchalsharma1024: aanchal1

search func added #1

Open aanchalsharma1024 wants to merge 1 commit into Group01-Chitkara-University:master from aanchalsharma1024:aanchal1

Conversation 0 Commits 1 Checks 0 Files changed 1

aanchalsharma1024 commented 1 minute ago

No description provided.

search func added

aanchalsharma1024 commented now

search function in binary search

Add more commits by pushing to the aanchal1 branch on aanchalsharma1024:2110990015\_G01-2.

This branch has no conflicts with the base branch

Only those with write access to this repository can merge pull requests.

Write Preview

Reviewers: No reviews, Still in progress? Convert to draft

Assignees: No one assigned

Labels: None yet

Projects: None yet

Milestone: No milestone

Development

Successfully merging this pull request may close these

search func added by aanchalsharma1024: aanchal1

search func added #1

Merged Aarushi2021 merged 1 commit into Group01-Chitkara-University:master from aanchalsharma1024:aanchal1 now

Conversation 1 Commits 1 Checks 0 Files changed 1

aanchalsharma1024 commented 3 hours ago

No description provided.

search func added

aanchalsharma1024 commented 3 hours ago

search function in binary search

Aarushi2021 merged commit ea279a into Group01-Chitkara-University:master now

Write Preview

Reviewers: No reviews

Assignees: No one—assign yourself

Labels: None yet

Projects: None yet

Milestone: No milestone

Development

Add more commits by pushing to the aanchal1 branch on aanchalsharma1024:2110990015\_G01-2.

Continuous integration has not been set up

GitHub Actions and several other apps can be used to automatically catch bugs and enforce style.

This branch has no conflicts with the base branch

Merging can be performed automatically.

Merge pull request You can also open this in GitHub Desktop or view command line instructions.

Write Preview

Project: None yet

Milestone: No milestone

Development: None yet

Similarly, create pull requests on other members repositories.

On 2nd team member's repository:

```
MINGW64/c/Users/Aarul/juneja/Desktop/2110990015_G01-1
Aarul@juneja-LAPTOP-57TFK7UK MINGW64 ~/Desktop/abhishek_2110990069 (Aarul)
$ cd ..

Aarul@juneja-LAPTOP-57TFK7UK MINGW64 ~/Desktop (master)
$ git clone https://github.com/Aarul12/2110990015_G01-1.git
Cloning into '2110990015_G01-1'...
remote: Enumerating objects: 11, done.
remote: Counting objects: 100% (11/11), done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 11 (delta 1), reused 7 (delta 1), pack-reused 0
Receiving objects: 100% (11/11), done.
Resolving deltas: 100% (1/1), done.

Aarul@juneja-LAPTOP-57TFK7UK MINGW64 ~/Desktop (master)
$ ls
```

```
$ git checkout Aarul
Switched to branch 'Aarul'
M   binarysearch.cpp

Aarul@juneja-LAPTOP-57TFK7UK MINGW64 ~/Desktop/2110990015_G01-1 (Aarul)
$ vi binarysearch.cpp

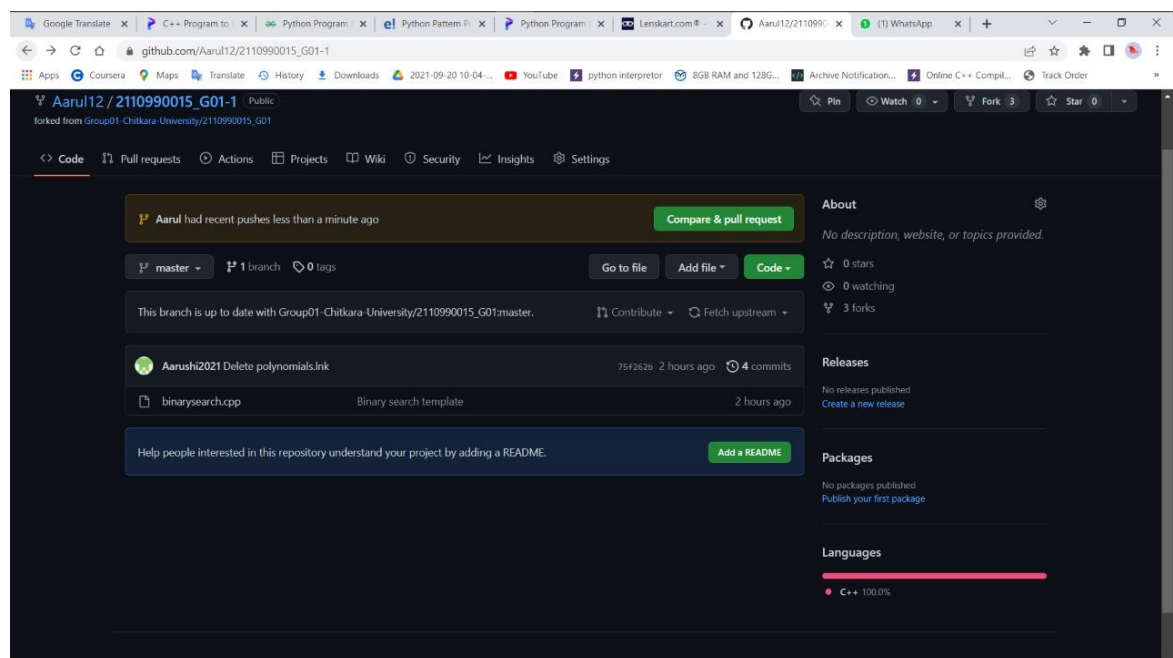
Aarul@juneja-LAPTOP-57TFK7UK MINGW64 ~/Desktop/2110990015_G01-1 (Aarul)
$ git init
Reinitialized existing Git repository in C:/Users/Aarul/juneja/Desktop/2110990015_G01-1/.git/

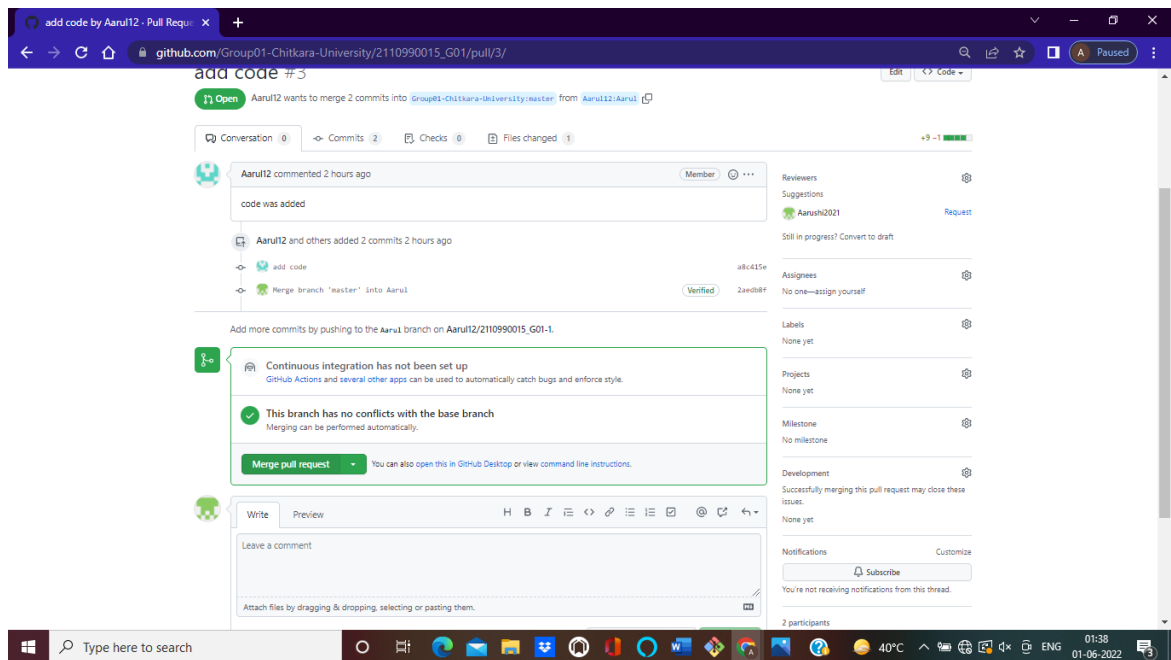
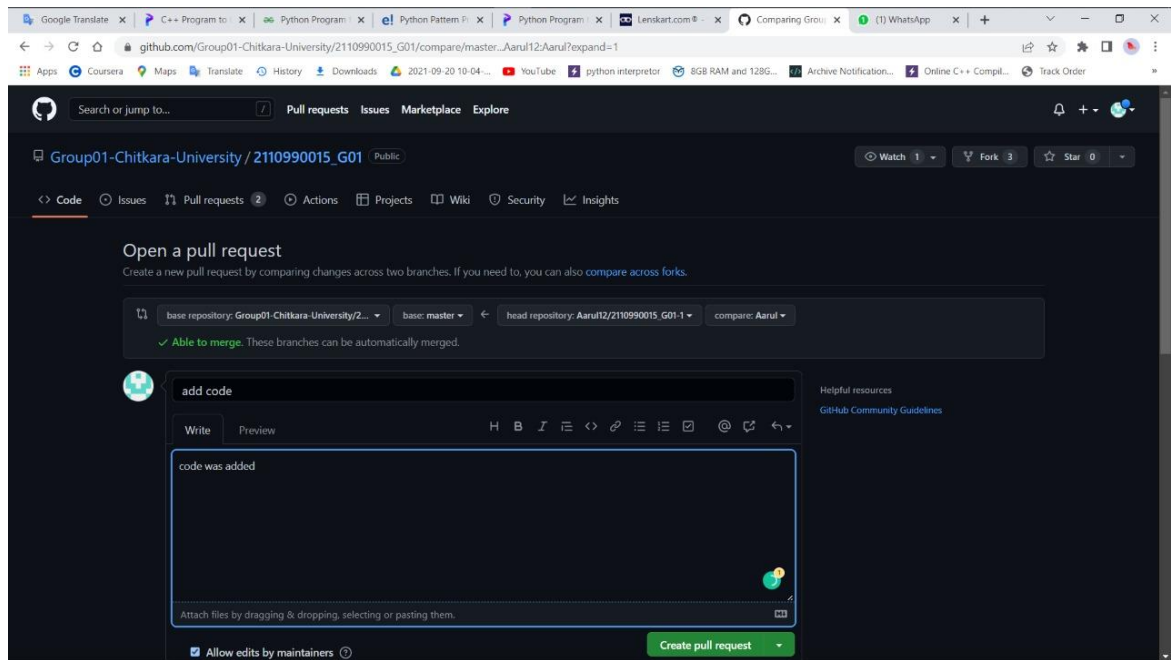
Aarul@juneja-LAPTOP-57TFK7UK MINGW64 ~/Desktop/2110990015_G01-1 (Aarul)
$ git add .

Aarul@juneja-LAPTOP-57TFK7UK MINGW64 ~/Desktop/2110990015_G01-1 (Aarul)
$ git commit -m"add code"
[Aarul a8c415e] add code
1 file changed, 5 insertions(+), 4 deletions(-)

Aarul@juneja-LAPTOP-57TFK7UK MINGW64 ~/Desktop/2110990015_G01-1 (Aarul)
$ git push -u origin Aarul
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), 391 bytes | 391.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'Aarul' on GitHub by visiting:
remote:   https://github.com/Aarul12/2110990015_G01-1/pull/new/Aarul
remote:
To https://github.com/Aarul12/2110990015_G01-1.git
- [new branch]   Aarul -> Aarul
Branch 'Aarul' set up to track remote branch 'Aarul' from 'origin'.

Aarul@juneja-LAPTOP-57TFK7UK MINGW64 ~/Desktop/2110990015_G01-1 (Aarul)
$
```







Resolve Conflicts · Pull Request #

github.com/Group01-Chitkara-University/2110990015\_G01/pull/3/conflicts

Group01-Chitkara-University / 2110990015\_G01

add code #3

Resolving conflicts between Aarul12:Aarul and Group01-Chitkara-IL:master and committing changes → Aarul12:Aarul

1 conflicting file

binarysearch.cpp

```

1 #include <iostream>
2
3 using namespace std;
4 bool search(int arr[],int size,int key){
5     for(int i=0; i<size; i++){
6         if(arr[i]==key){
7             return 1;
8         }
9     }
10    return 0;
11 }
12 int main()
13 {
14     int arr[10]={6,5,4,2,6,6,6,9,1,4};
15     cout<<"enter the elements to search for"<<endl;
16     int key;
17     cin>>key;
18
19     bool found= search(arr,10,key);
20     if(found){
21         cout<<"key is present"<<endl;
22     }
23     else{
24         cout<<"key is absent"<<endl;
25     }
26 }
27
28
29
30

```

Committing merge...

Resolved

add code by Aarul12 · Pull Request #

github.com/Group01-Chitkara-University/2110990015\_G01/pull/3/

Group01-Chitkara-University / 2110990015\_G01

add code #3

Merged Aarush2021 merged 2 commits into Group01-Chitkara-University:master from Aarul12:Aarul

Conversation · Commits · Checks · Files changed

Aarul12 commented 2 hours ago

code was added

Aarul12 and others added 2 commits 2 hours ago

- add code
- Merge branch 'master' into Aarul

Aarush2021 merged commit 3acc85 into Group01-Chitkara-University:master now

Write Preview

Leave a comment

Reviews

Assignees

Labels

Projects

Milestone

Development

Successfully merging this pull request may close these



## On 3<sup>rd</sup> team member's repository:

```

MINGW64~/Users/abhishek/Desktop/New folder/2110990015_G01
abhishek@MSI MINGW64 ~/Desktop/New folder/2110990015_G01 (master)
$ git checkout -b abhishekraj
Switched to a new branch 'abhishekraj'
abhishek@MSI MINGW64 ~/Desktop/New folder/2110990015_G01 (abhishekraj)
$ ls
binarysearch.cpp
abhishek@MSI MINGW64 ~/Desktop/New folder/2110990015_G01 (abhishekraj)
$ vi binarysearch.cpp
abhishek@MSI MINGW64 ~/Desktop/New folder/2110990015_G01 (abhishekraj)
$ git add -A
abhishek@MSI MINGW64 ~/Desktop/New folder/2110990015_G01 (abhishekraj)
$ git commit -m "append condition"
[abhishekraj 4522906] append condition
1 file changed, 7 insertions(+), 1 deletion(-)
abhishek@MSI MINGW64 ~/Desktop/New folder/2110990015_G01 (abhishekraj)
$ git push -u origin abhishekraj
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 12 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 409 bytes | 409.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote: Create a pull request for 'abhishekraj' on GitHub by visiting:
remote:   https://github.com/abhishekraj2150/2110990015_G01/pull/new/abhishek
remote:
To github.com:abhishekraj2150/2110990015_G01.git
 * [new branch]      abhishekraj -> abhishekraj
branch 'abhishekraj' set up to track 'origin/abhishekraj'.
abhishek@MSI MINGW64 ~/Desktop/New folder/2110990015_G01 (abhishekraj)
$
  
```

append condition by abhishekraj

append condition - Google Search

https://github.com/Group01-Chitkara-University/2110990015\_G01/pull/2

append condition #2

abhishekraj2150 wants to merge 1 commit into Group01-Chitkara-University:master from abhishekraj2150:abhishekraj

Conversation 0 Commits 1 Checks 0 Files changed 1

abhishekraj2150 commented 1 minute ago

No description provided.

append condition 4522906

Add more commits by pushing to the abhishekraj branch on abhishekraj2150/2110990015\_G01.

This branch has no conflicts with the base branch

Only those with write access to this repository can merge pull requests.

Write Preview

Leave a comment

Attach files by dragging & dropping, selecting or pasting them.

Close pull request Comment

WhatsApp

Scm viva group

Aarushi ❤️❤️❤️❤️: 0000

## On another owners (member) repo :



The screenshot shows a GitHub pull request titled "append condition #2" for the repository "Group01-Chitkara-University / 2110990015\_G01". The pull request is from the "abhishekraj2150" branch to the "Group01-Chitkara-University:master" branch. A conflict is highlighted in the file "binarysearch.cpp". The message states: "This branch has conflicts that must be resolved. Use the web editor or the command line to resolve conflicts. Conflicting files: binarysearch.cpp". The interface includes options to "Merge pull request" or "Resolve conflicts".

Solve the conflicts and mark them as resolved :

The screenshot shows the "Resolve Conflicts" interface for the same pull request. The conflict in "binarysearch.cpp" has been resolved. The interface displays the code for "binarysearch.cpp" with line numbers 1 through 25. The code includes a search function and a main function. The status "Resolved" is shown next to the file name. A "Commit merge" button is visible at the top right.



append condition #2

abhishekrj2150 wants to merge 2 commits into Group01-Chitkara-University/master from abhishekrj2150:abhishekrj

Conversation | Commits | Checks | Files changed

abhishekrj2150 commented 3 hours ago

No description provided.

abhishekrj2150 and others added 2 commits 3 hours ago

- append condition
- Merge branch 'master' into abhishekrj

Add more commits by pushing to the abhishekrj branch on abhishekrj2150:2110990015\_G01.

Continuous integration has not been set up  
GitHub Actions and several other apps can be used to automatically catch bugs and enforce style.

This branch has no conflicts with the base branch  
Merging can be performed automatically.

Merge pull request

Reviewers: Aarush2021, aanchalsharma1024

Assignees: No one—assign yourself

Labels: None yet

Projects: None yet

Milestone: No milestone

append condition #2

Aarush2021 merged 2 commits into Group01-Chitkara-University/master from abhishekrj2150:abhishekrj now

Conversation | Commits | Checks | Files changed

abhishekrj2150 commented 3 hours ago

No description provided.

abhishekrj2150 and others added 2 commits 3 hours ago

- append condition
- Merge branch 'master' into abhishekrj

Aarush2021 merged commit e358ba2 into Group01-Chitkara-University/master now

Write | Preview

Leave a comment

Reviewers: No reviews

Assignees: No one—assign yourself

Labels: None yet

Projects: None yet

Milestone: No milestone

Development

Successfully merging this pull request may close these

Here, the owner of the repository has closed the pull request without

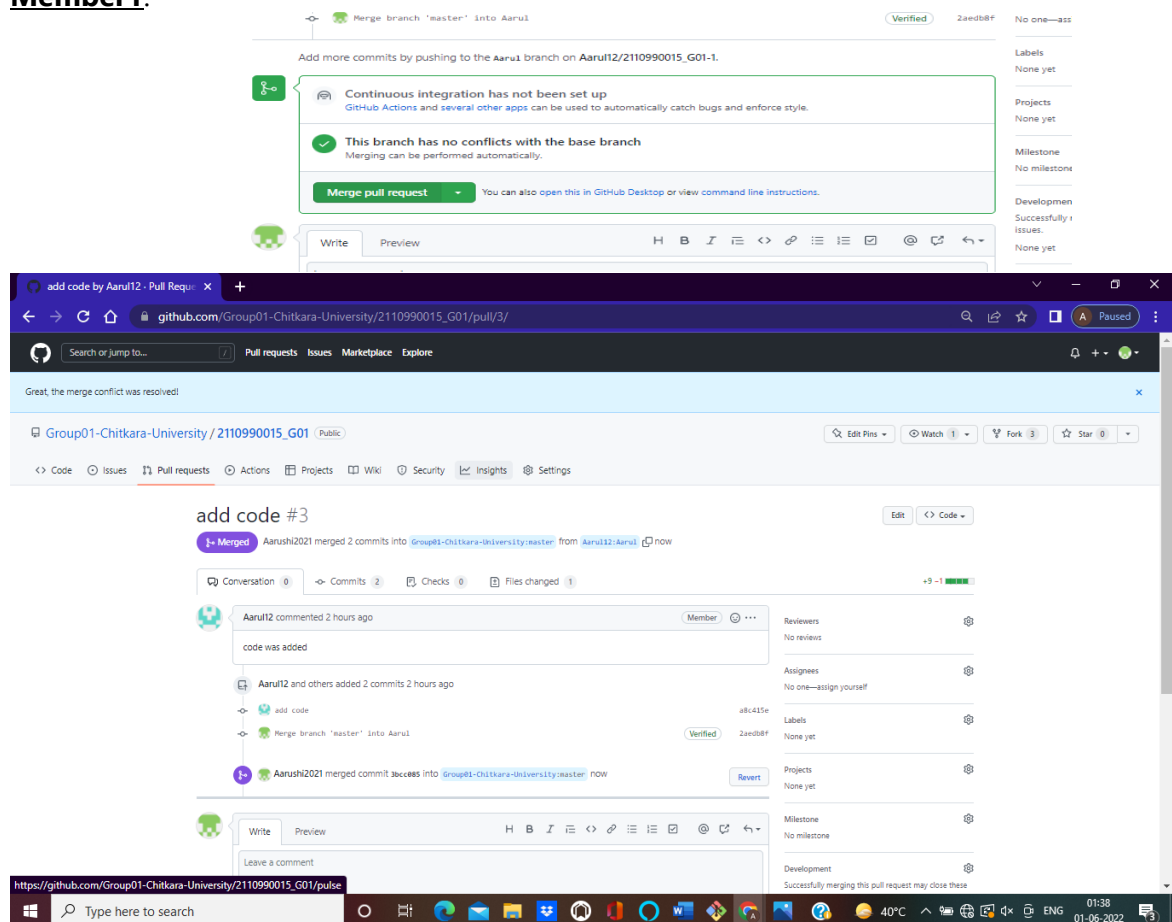
merging the commits that we made.

## #CLOSING/MERGING PULL REQUESTS GENERATED BY TEAM MEMBERS

1. In the pull request menu of your repository there will be a notification. Open it.
2. You can either choose to close it without merging the commits or you can merge it.
3. After closing it, this screen will appear

Here, I have chosen to merge the pull request which will introduce the changes made by them into my own repository.

### Member1:



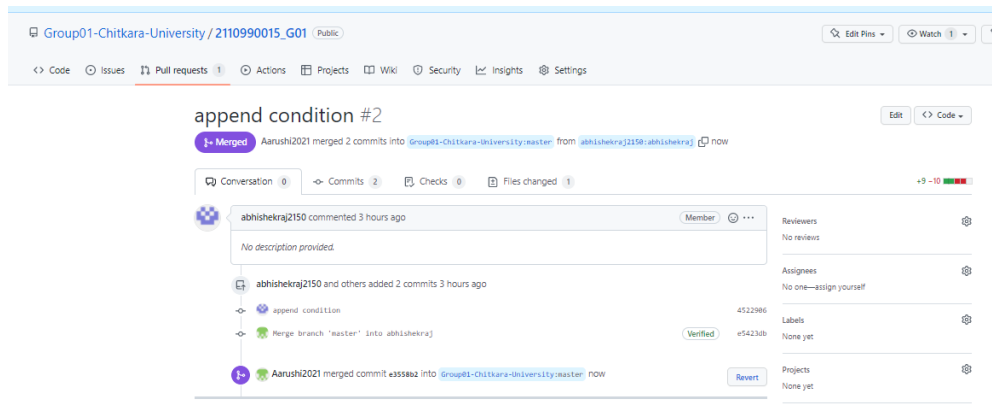
### Team member2:

Group01-Chitkara-University / 2110990015\_G01 Public

Team **Member 3:**

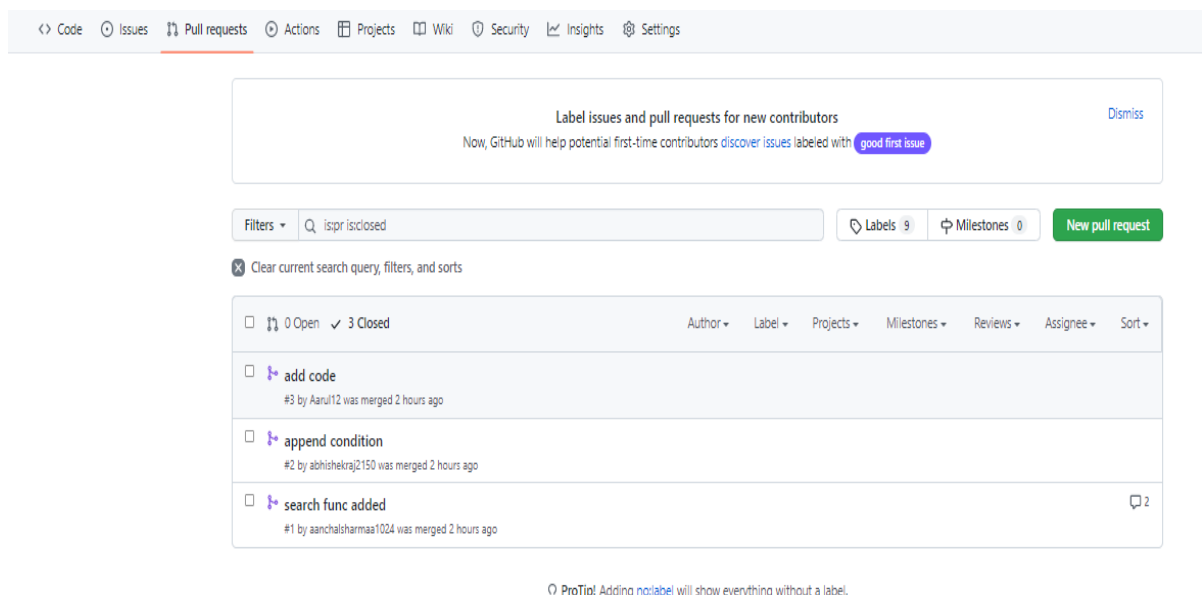
---

34



1. To view the pull requests history of your repository, click on the pull request button in the menu.
2. You will be shown by default the open requests screen.
3. Click on Closed option to see the history.

### After closing all pull request:

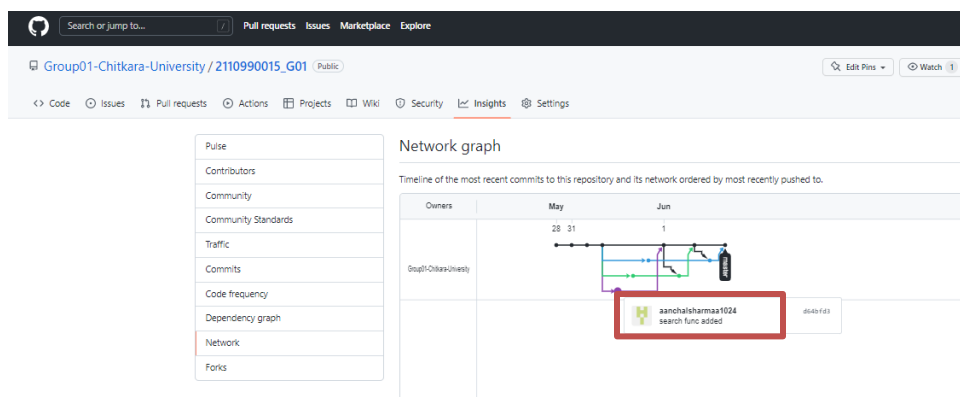
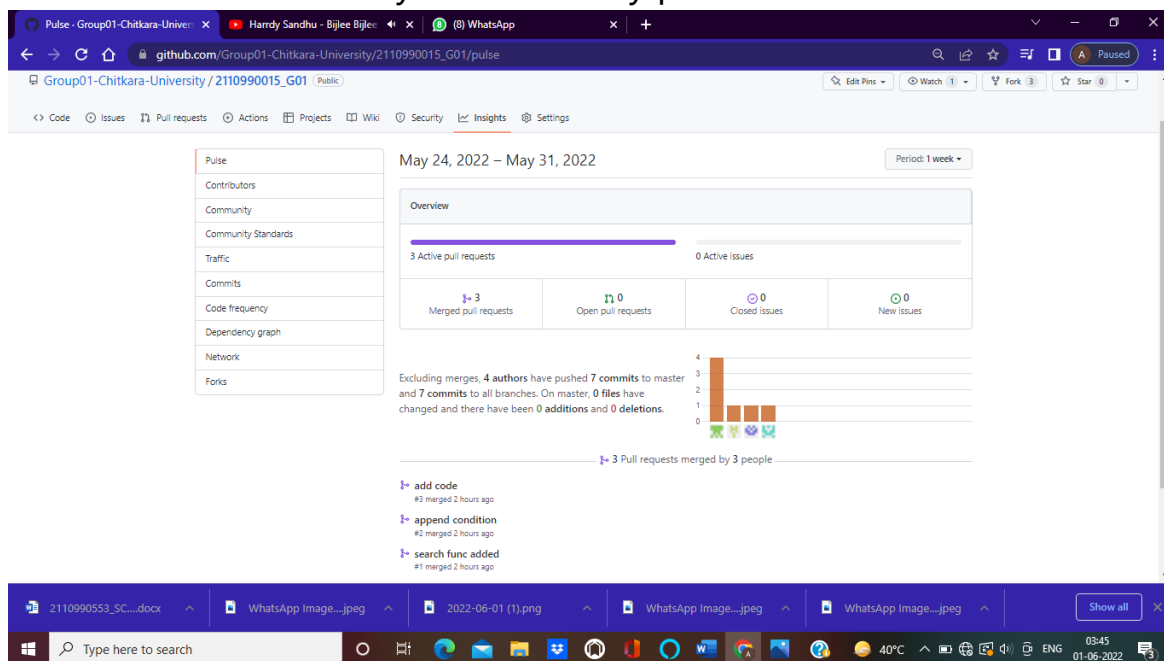


## NETWORK GRAPHS

To view the network graphs of your repository, follow the steps:

1. Go to the repository of which you want the graph/details.
2. Click on the 'Insights' option in the menu bar.
3. In the right menu list click on network.
4. You can see the network graph there.

It shows the timeline of the most recent commits to this repository and its network ordered by most recently pushed to.



The points in the network graph represents the commits. By hovering over the points, you can see the information about the commit such as author, checksum, message of commit.

