



Experiment –2.1

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Branch: CSE(DEVOPS)

Semester: 4TH

Subject Name: GIT AND GITHUB

UID: 22BDO10031

Section/Group: 22BCD-1/A

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Subject Code: 22CSH-293

1. Aim/Overview of the practical: Editing a file and committing changes on GitHub.

2. Software used: Git Bash and GitHub.

Task to be done/ Steps for experiment:

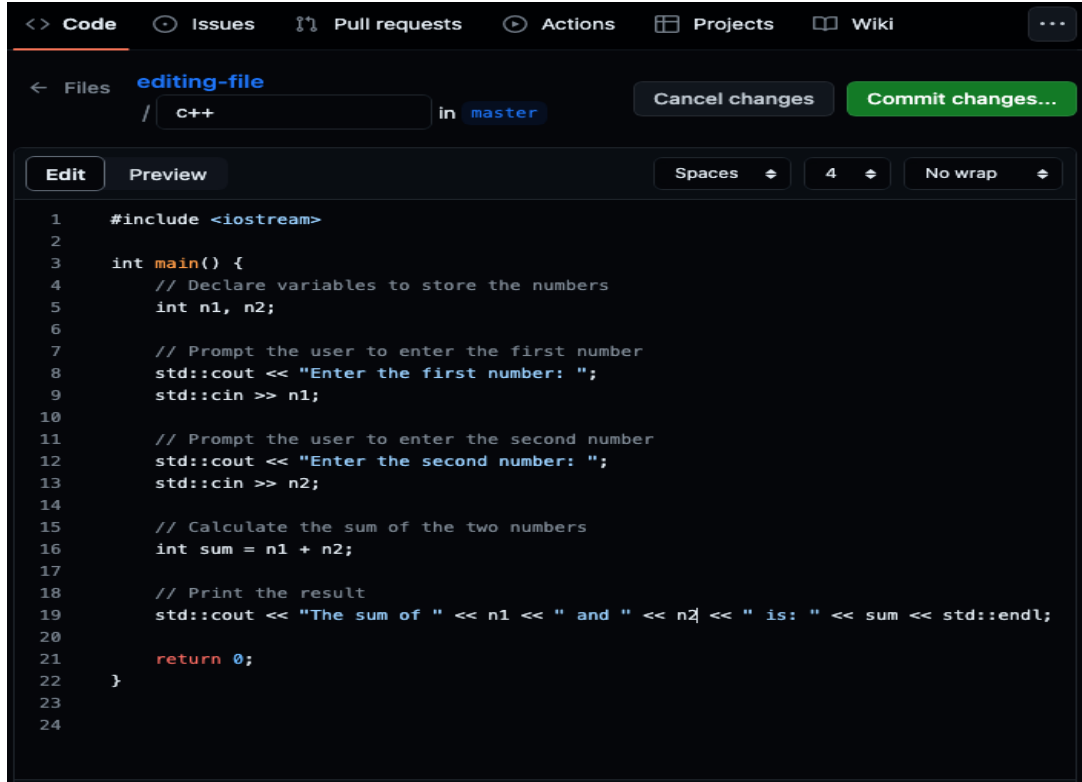
- First open GitHub, create a repository 'editing-file', and clone a repository on git bash.
- Then move to the directory using the cd command.
- Now create a file named 'c++' and add some text to the files using vi filename.
- Add it to the staging area by git add command and commit it using git commit -m "message".

```
To update your account to use zsh, please run `chsh -s /bin/zsh`
AditiPandey568@AditiPandey568:~$ git clone https://github.com/AditiPandey568/editing-file.git
Cloning into 'editing-file'...
warning: You appear to have cloned an empty repository.
AditiPandey568@AditiPandey568:~$ cd editing-file
AditiPandey568@AditiPandey568:~/editing-file$ vi c++
AditiPandey568@AditiPandey568:~/editing-file$ vi c++
AditiPandey568@AditiPandey568:~/editing-file$ git add c++
AditiPandey568@AditiPandey568:~/editing-file$ git commit -m "committed"
[master (root-commit) 04d23c2] committed
 1 file changed, 23 insertions(+)
 create mode 100644 c++
```

- Now push the changes to remote repository using command git push origin main.

```
Aditis-MacBook-Air:editing-file aditipandey$ git branch
* master
Aditis-MacBook-Air:editing-file aditipandey$ git push origin master
Counting objects: 3, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 426 bytes | 426.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/AditiPandey568/editing-file.git
* [new branch]      master -> master
```

- . You can see the changes in the remote repository.



The screenshot shows a GitHub repository interface. At the top, there are tabs for Code, Issues, Pull requests, Actions, Projects, and Wiki. Below these, the file 'editing-file' is selected, showing its contents in the 'master' branch. The file is a C++ program that prompts the user to enter two numbers and calculates their sum. The code is displayed in a dark-themed editor with line numbers on the left. The code is as follows:

```
1  #include <iostream>
2
3  int main() {
4      // Declare variables to store the numbers
5      int n1, n2;
6
7      // Prompt the user to enter the first number
8      std::cout << "Enter the first number: ";
9      std::cin >> n1;
10
11     // Prompt the user to enter the second number
12     std::cout << "Enter the second number: ";
13     std::cin >> n2;
14
15     // Calculate the sum of the two numbers
16     int sum = n1 + n2;
17
18     // Print the result
19     std::cout << "The sum of " << n1 << " and " << n2 << " is: " << sum << std::endl;
20
21     return 0;
22 }
23
24
```

<remote>

Now make some changes in the remote repository and pull those changes in the local repository.



```
#include <iostream>

int main() {
    // Declare variables to store the numbers
    int n1, n2;

    // Prompt the user to enter the first number
    std::cout << "Enter the n1 number: ";
    std::cin >> n1;

    // Prompt the user to enter the second number
    std::cout << "Enter the n2 number: ";
    std::cin >> n2;

    // Calculate the sum of the n1 and n2 numbers
    int sum = n1 + n2;

    // Print the result
    std::cout << "The sum of " << n1 << " and " << n2 << " is:
" << sum << std::endl;

    return 0;
}

~
~
~
~
~
~
~
~
```

<Local >

- Now, pull your changes using git pull origin main

```
Aditis-MacBook-Air:editing-file aditipandey$ git pull origin master
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), done.
From https://github.com/AditiPandey568/editing-file
 * branch                master      -> FETCH_HEAD
    04d23c2..3509f4f  master      -> origin/master
Updating 04d23c2..3509f4f
Fast-forward
 c++ | 10 +++++-----
 1 file changed, 5 insertions(+), 5 deletions(-)
```

- Now you can see the changes by doing vi c++

- Then create a new branch using the command 'git checkout -b branch name'.
- Open the c++ file on the vi editor and make some changes.

```
Aditis-MacBook-Air:editing-file aditipandey$ vi c++
Aditis-MacBook-Air:editing-file aditipandey$ git checkout -b branch4
Switched to a new branch 'branch4'
Aditis-MacBook-Air:editing-file aditipandey$ vi c++
Aditis-MacBook-Air:editing-file aditipandey$ git add c++
Aditis-MacBook-Air:editing-file aditipandey$ git commit -m "file committed"
[branch4 6b598c3] file committed
1 file changed, 3 insertions(+), 3 deletions(-)
Aditis-MacBook-Air:editing-file aditipandey$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
```

- Now merge the changes made in branch1 with the main branch.
- Then push the main and branch1 to the remote repository.

```
Aditis-MacBook-Air:editing-file aditipandey$ git merge branch4
Updating 3509f4f..6b598c3
Fast-forward
 c++ | 6 +++---
1 file changed, 3 insertions(+), 3 deletions(-)
Aditis-MacBook-Air:editing-file aditipandey$ git push origin master
Counting objects: 3, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 281 bytes | 281.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/AditiPandey568/editing-file.git
3509f4f..6b598c3 master -> master
Aditis-MacBook-Air:editing-file aditipandey$ git push origin branch4
Total 0 (delta 0), reused 0 (delta 0)
remote:
remote: Create a pull request for 'branch4' on GitHub by visiting:
remote: https://github.com/AditiPandey568/editing-file/pull/new/branch4
remote:
To https://github.com/AditiPandey568/editing-file.git
Aditis-MacBook-Air:editing-file aditipandey$
```

- Now you can see the changes in the remote repository.



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```
<> Code Issues Pull requests Actions Projects Wiki
< Files editing-file
/ c++ in master Cancel changes Commit changes...

Edit Preview Spaces 4 No wrap

1 #include <iostream>
2
3 int main() {
4     // Declare variables to store the numbers
5     int n1, n2;
6
7     // Prompt the user to enter the first number
8     std::cout << "Enter the first number: ";
9     std::cin >> n1;
10
11    // Prompt the user to enter the second number
12    std::cout << "Enter the second number: ";
13    std::cin >> n2;
14
15    // Calculate the sum of the two numbers
16    int sum = n1 + n2;
17
18    // Print the result
19    std::cout << "The sum of " << n1 << " and " << n2 << " is: " << sum << std::endl;
20
21    return 0;
22 }
23
24
```

Now go to GitHub and in the repo make to the branch1 and make some changes in the file.

editing-file / c++ in branch4

Edit Preview Code 55% faster with GitHub Copilot

```

1  #include <iostream>
2
3  int main() {
4      // Declare variables to store the numbers
5      int nu1, nu2;
6
7      // Prompt the user to enter the first number
8      std::cout << "Enter the nu1 number: ";
9      std::cin >> nu1;
10
11     // Prompt the user to enter the second number
12     std::cout << "Enter the nu2 number: ";
13     std::cin >> nu2;
14
15     // Calculate the sum of the n1 :`and n2 numbers
16     int sum = nu1 + nu2;
17
18     // Print the result
19     std::cout << "The sum of nu1+nu2 " << sum << std::endl;
20
21     return 0;
22 }
23
24

```

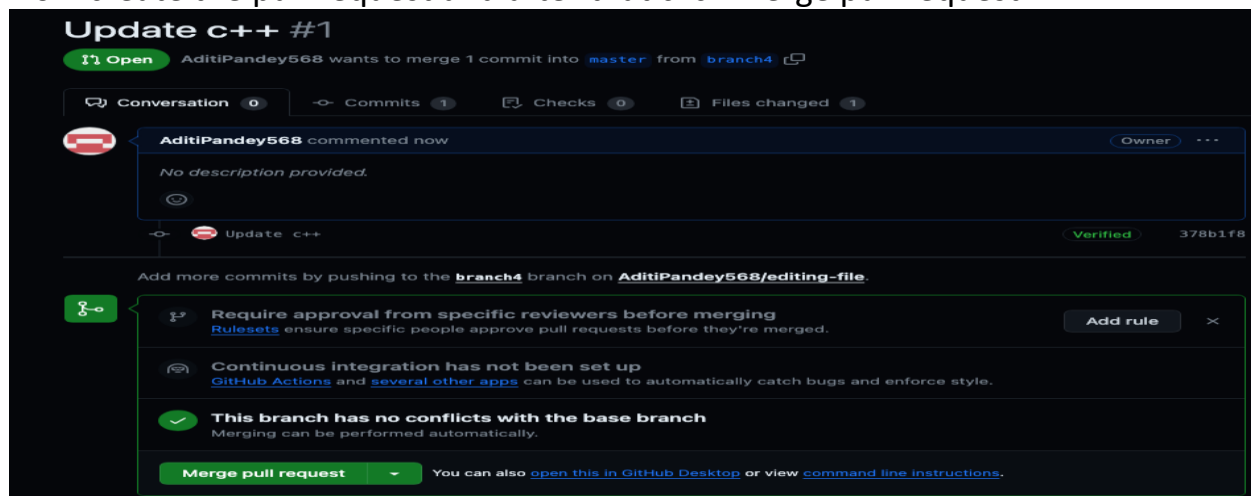
- Now commit the changes and go to main branch.
Compare & Pull request.

Showing 1 changed file with 7 additions and 7 deletions. Split Unified

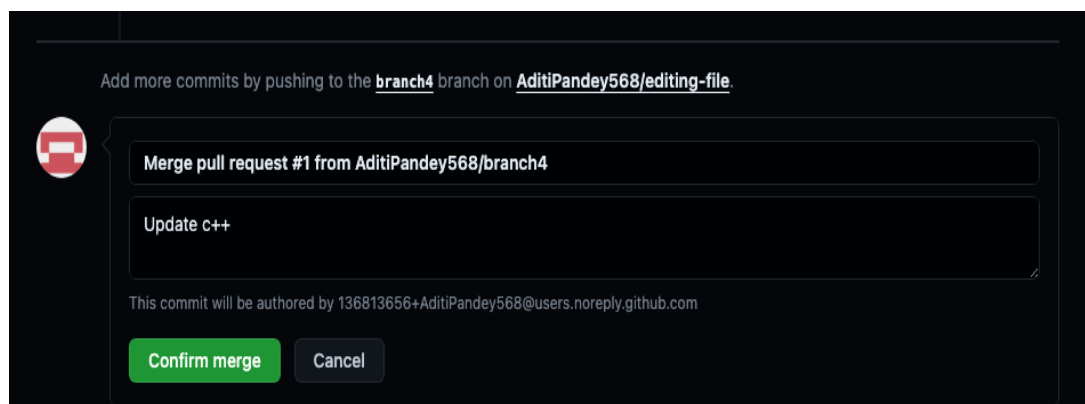
14 c++

<pre> 2 int main() { 3 // Declare variables to store the numbers 4 int n1, n2; 5 6 // Prompt the user to enter the first number 7 std::cout << "Enter the n1 number: "; 8 std::cin >> n1; 9 10 // Prompt the user to enter the second number 11 std::cout << "Enter the n2 number: "; 12 std::cin >> n2; 13 14 // Calculate the sum of the n1 :`and n2 numbers 15 int sum = n1 + n2; 16 17 // Print the result 18 std::cout << "The sum of " << n1 << " and " << n2 << " is: " << sum << std::endl; 19 20 return 0; 21 } </pre>	<pre> 2 int main() { 3 // Declare variables to store the numbers 4 int nu1, nu2; 5 6 // Prompt the user to enter the first number 7 std::cout << "Enter the nu1 number: "; 8 std::cin >> nu1; 9 10 // Prompt the user to enter the second number 11 std::cout << "Enter the nu2 number: "; 12 std::cin >> nu2; 13 14 // Calculate the sum of the n1 :`and n2 numbers 15 int sum = nu1 + nu2; 16 17 // Print the result 18 std::cout << "The sum of nu1+nu2 " << sum << std::endl; 19 20 return 0; 21 } </pre>
---	---

Now create the pull request and after that click merge pull request.



Do confirm merge.



4. Result/Output/Writing Summary:

In this experiment, we have Editing a file and committing changes on GitHub..

Learning outcomes (What I have learnt):

1. I have learnt about branches and how to create them.
2. I have learnt about how to push and pull the changes.

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3. I have learnt about how to merge the branches.
 4. I have learnt about some new commands.
 5. I have learnt how to resolve merge conflicts.

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			