# Experiment-5

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**Branch: Cse (DevOps)** **Section/Group: 22BCD1/B**
**Semester: 4** **Date of Performance: 23/02/2024**
**Subject Name: Git and hub** **Subject Code: 22CSH-293**

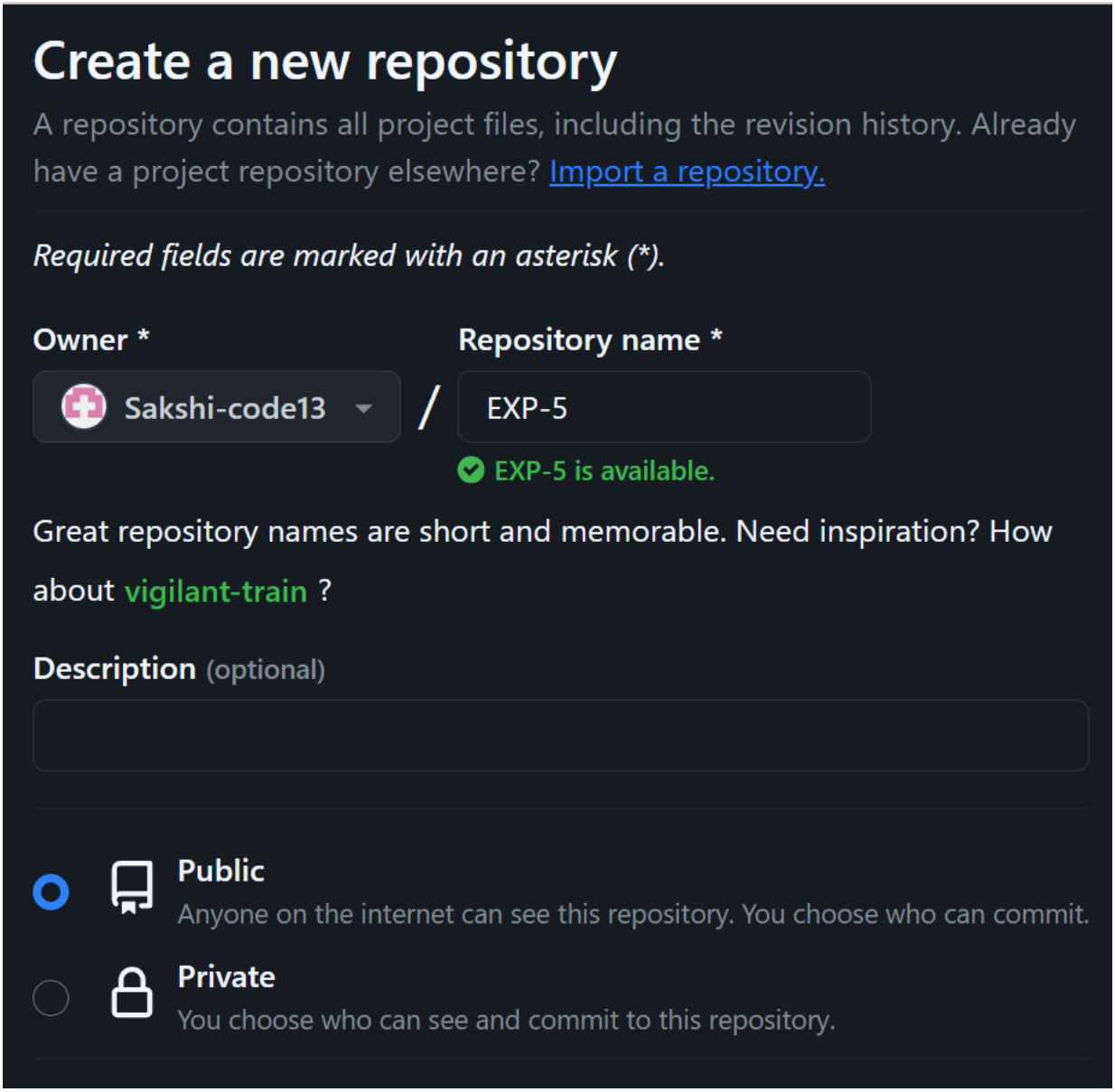
1. **Aim/Overview of the practical:**
   To create re

2. **Apparatus :**

   **Laptop, Git software**

**3. Steps for experiment/practical:**

- Create a repository on Github, for example I have created a repository named as EXP-5.




- After that, enter the contents into a file, like I have added the code of addition of two sum into the file Sum.c.

Files EXP-5 / Sum.c in main

Cancel changes | Commit changes...

Edit | Preview

Spaces | 2 | No wrap

```c
#include <stdio.h>

int main() {
    int number1, number2, sum;

    printf("Enter two integers: ");
    scanf("%d %d", &number1, &number2);

    // calculate the sum
    sum = number1 + number2;

```

Files main

EXP-5 /

Sakshi-code13 now

| Name | Last commit date |
| --- | --- |
| README.md | 12 minutes ago |
| Sum.c | now |

- Now, create a local repository and initialize it, by using the command **$ git init**

```
ADMIN@LAPTOP-RFULERMP MINGW64 ~ (main)
$ git init Sub
Initialized empty Git repository in C:/Users/ADMIN/Sub/.git/
```

- After this, we will change directory to current repository by using the command **$ cd**

```
ADMIN@LAPTOP-RFULERMP MINGW64 ~ (main)
$ cd Sub
```

- Now, add remote origin to local repository, by using the command **$ git remote add origin "url/username/repo_name.git"**

```
ADMIN@LAPTOP-RFULERMP MINGW64 ~/Sub (master)
$ git remote add origin "https://github.com/Sakshi-code13/EXP-5.git"
```

- Now, we will fetch the repository first then after that pull it, by using the following commands :-

  **$ git fetch**

  **$ git pull origin main**

```
ADMIN@LAPTOP-RFULERMP MINGW64 ~/Sub (master)
$ git fetch
remote: Enumerating objects: 6, done.
remote: Counting objects: 100% (6/6), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (6/6), 1.89 KiB | 88.00 KiB/s, done.
From https://github.com/Sakshi-code13/EXP-5
 * [new branch]      main       -> origin/main

ADMIN@LAPTOP-RFULERMP MINGW64 ~/Sub (master)
$ git pull origin main
From https://github.com/Sakshi-code13/EXP-5
 * branch            main       -> FETCH_HEAD
```

- We will create a new branch by using the command **$ git checkout -b branch**

```
ADMIN@LAPTOP-RFULERMP MINGW64 ~/Sub (master)
$ git checkout -b branch1
Switched to a new branch 'branch1'
```

- Now, by using the command **$ vi file.name** make changes to the existing file Sum.c, and then show the changes by applying the command **$ cat file.name**

```
ADMIN@LAPTOP-RFULERMP MINGW64 ~/Sub (branch1)
$ vi Sum.c

ADMIN@LAPTOP-RFULERMP MINGW64 ~/Sub (branch1)
$ cat Sum.c
#include <stdio.h>

int main() {
    int a, b, sum;

    printf("Enter two integers: ");
    scanf("%d %d", &a, &b);

    // calculate the sum
    sum = a + b;

    printf("%d + %d = %d", a, b, sum);

    return 0;
}
```

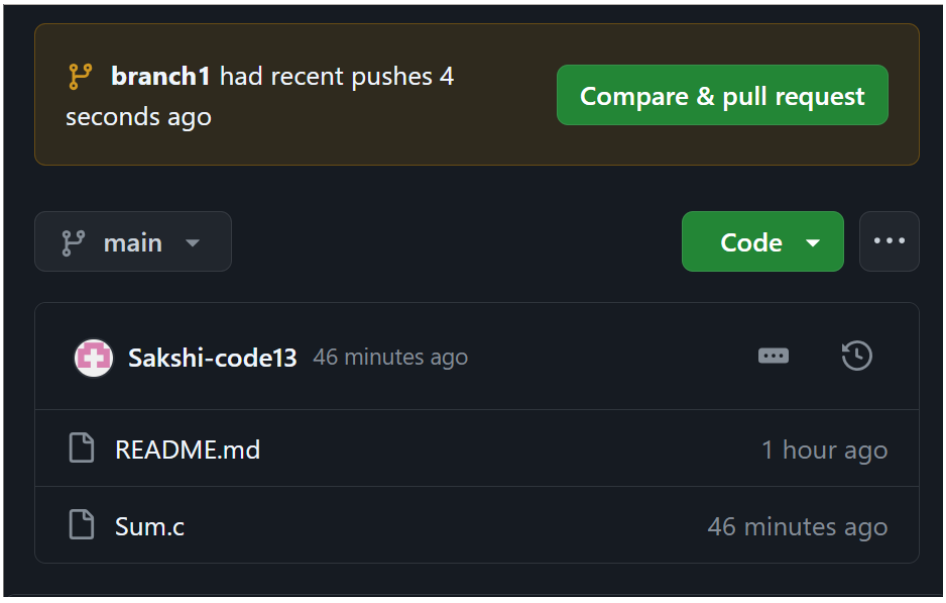
- We will add and commit the changes into branch1, using the single phase commit by using the command **$ git commit -am "Committing in branch1"** .

```
ADMIN@LAPTOP-RFULERMP MINGW64 ~/Sub (branch1)
$ git commit -am "Committing in branch1"
[branch1 8c33980] Committing in branch1
 1 file changed, 4 insertions(+), 4 deletions(-)
```

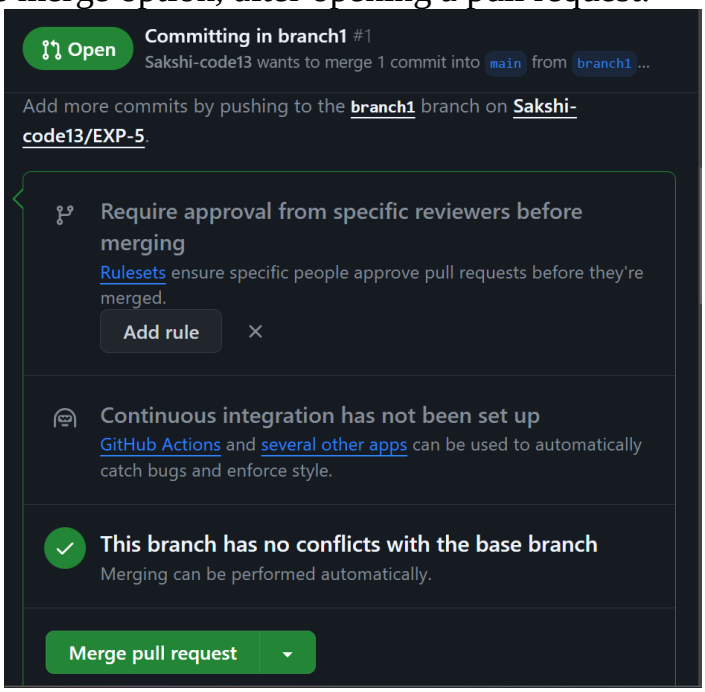
- Now, we will push the branch1 on github, by using the command **$ git push origin branch1**

```
ADMIN@LAPTOP-RFULERMP MINGW64 ~/Sub (branch1)
$ git push origin branch1
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), 337 bytes | 337.00 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.
remote:
remote: Create a pull request for 'branch1' on GitHub by visiting:
remote:      https://github.com/Sakshi-code13/EXP-5/pull/new/branch1
remote:
To https://github.com/Sakshi-code13/EXP-5.git
 * [new branch]      branch1 -> branch1
```

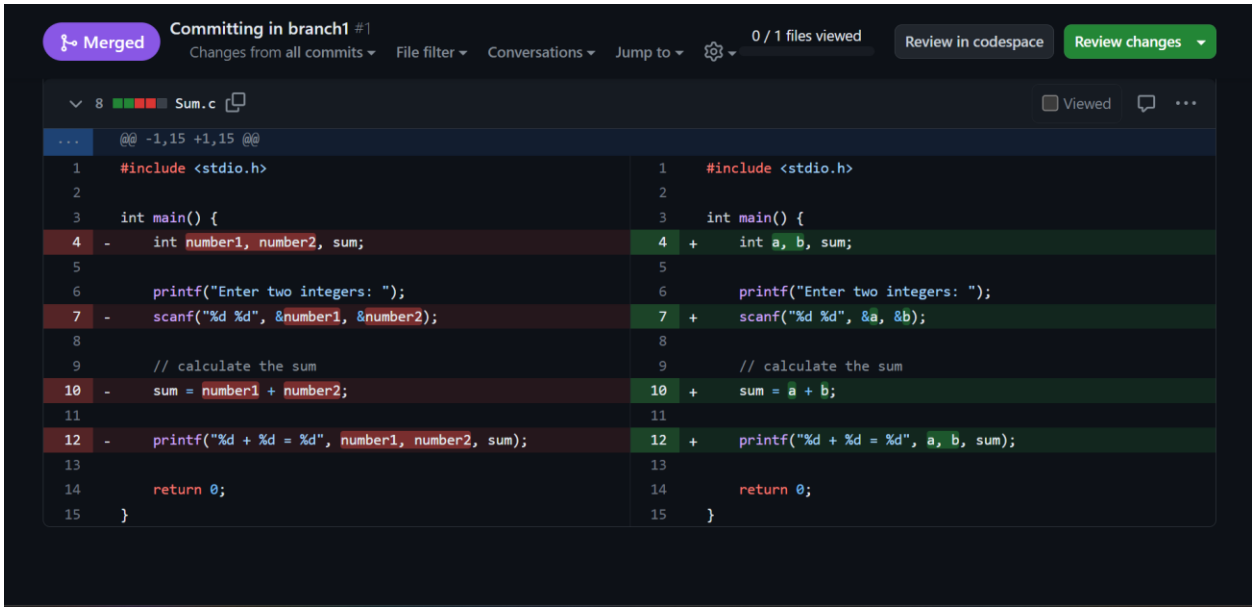
- We can see compare and pull request on github, which came after pushing the files onto the remote from local.



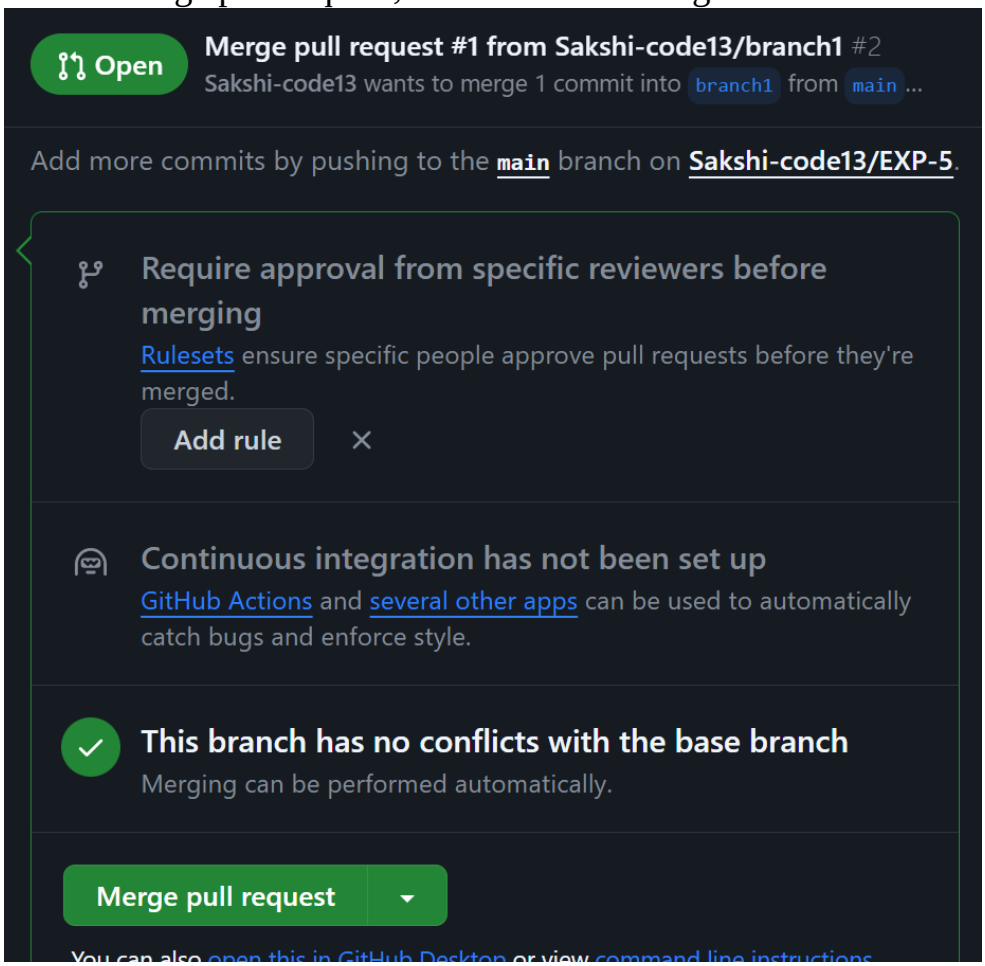
- You can see the merge option, after opening a pull request.




- The differences can be seen easily when we are merging the files in present in different branches.



- Now, click on merge pull request, so that we can merge both the branches.




- After this, we can see that we have successfully merged the branches.

- We can observe that our content is changed in our main branch after merging.

EXP-5 / Sum.c

Sakshi-code13 33 minutes ago

15 lines (10 loc) · 233 Bytes

Code Blame

```c
#include <stdio.h>

int main() {
    int a, b, sum;

    printf("Enter two integers: ");
    scanf("%d %d", &a, &b);

    // calculate the sum
    sum = a + b;

    printf("%d + %d = %d", a, b, sum);

    return 0;
```

- Now again, pull the main branch in local repository, by using the command **$ git pull origin main**

```
ADMIN@LAPTOP-RFULERMP MINGW64 ~/Sub (branch1)
$ git pull origin main
remote: Enumerating objects: 1, done.
remote: Counting objects: 100% (1/1), done.
remote: Total 1 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (1/1), 898 bytes | 149.00 KiB/s, done.
From https://github.com/Sakshi-code13/EXP-5
 * branch            main       -> FETCH_HEAD
   23e6241..418abf9  main       -> origin/main
Updating 8c33980..418abf9
Fast-forward
```

- Again, create a new branch named branch2, by using the command **$ git checkout -b branch**

```
ADMIN@LAPTOP-RFULERMP MINGW64 ~/Sub (branch1)
$ git checkout -b branch2
Switched to a new branch 'branch2'
```

- Again, make the changes to the file using the vi editor and edit the file, also, see the contents of the file once done.

```
ADMIN@LAPTOP-RFULERMP MINGW64 ~/Sub (branch2)
$ vi Sum.c

ADMIN@LAPTOP-RFULERMP MINGW64 ~/Sub (branch2)
$ cat Sum.c
#include <stdio.h>

int main() {
    int n1, n2, sum;

    printf("Enter two integers: ");
    scanf("%d %d", &n1, &n2);

    // calculate the sum
    sum = n1 + n2;

    printf("%d + %d = %d", n1, n2, sum);

    return 0;
}
```

- Now, we will add and commit the changes in branch using one phase commit.

```
ADMIN@LAPTOP-RFULERMP MINGW64 ~/Sub (branch2)
$ git commit -am "Commiited in branch2
[branch2 d39d20a] Commiited in branch2
 1 file changed, 4 insertions(+), 4 deletions(-)
```

- Use git diff command to observe the differences between both files.

```
ADMIN@LAPTOP-RFULERMP MINGW64 ~/Sub (branch2)
$ git diff main
diff --git a/Sum.c b/Sum.c
index 9fa1daf..0f0964a 100644
--- a/Sum.c
+++ b/Sum.c
@@ -1,15 +1,15 @@
 #include <stdio.h>

 int main() {
-    int a, b, sum;
+    int n1, n2, sum;

     printf("Enter two integers: ");
-    scanf("%d %d", &a, &b);
+    scanf("%d %d", &n1, &n2);

     // calculate the sum
-    sum = a + b;
+    sum = n1 + n2;

-    printf("%d + %d = %d", a, b, sum);
+    printf("%d + %d = %d", n1, n2, sum);

     return 0;
 }
```

- Now, push the branch2 branch onto the github.

```
ADMIN@LAPTOP-RFULERMP MINGW64 ~/Sub (branch2)
$ git push origin branch2
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), 340 bytes | 340.00 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.
remote:
remote: Create a pull request for 'branch2' on GitHub by visiting:
remote:      https://github.com/Sakshi-code13/EXP-5/pull/new/branch2
remote:
To https://github.com/Sakshi-code13/EXP-5.git
 * [new branch]      branch2 -> branch2
```

- We can see changes in the main branch.


**Learning outcomes (What I have learnt):**

1. Learnt about merging in local and remote repositories.
2. Learnt about push and pull.
3. Learnt about merging.
4. Learnt about using vi command.

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. | | | |
| | | | |