Name:- Yash Arote Div:- A Roll No:-01

Git Basic commands:-

Command	New files	Modifies files	Deleted FIles	Remark
Git add -A	yes	yes	yes	Stage all files
git add -u	no	yes	yes	Stage only modified and deleted
Git add .	yes	yes	no	Stage new and modified files only

1) Configuring username and email

```
Student@L2-21 MINGW64 ~ (master)
$ git config --global user.name "Yash"

Student@L2-21 MINGW64 ~ (master)
$ git config --global user.email "yasharote28@gmail.com"
```

2) Intitalize git repository

```
Student@L2-21 MINGW64 /d/Yash-04
$ git init
Initialized empty Git repository in D:/Yash-04/.git/
```

3) Add files to staging area

```
Student@L2-21 MINGW64 /d/Yash-04 (master)
$ git add new.txt
```

4) Checking the status

```
Student@L2-21 MINGW64 /d/Yash-04 (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   new.txt
```

5) Checking current branch

```
Student@L2-21 MINGW64 /d/Yash-04 (master)
$ git branch -a
* master
```

6) Committing changes

```
Student@L2-21 MINGW64 /d/Yash-04 (master)
$ git commit -m "first commit"
[master c8f01a5] first commit
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 new.txt
```

7) Creating new branch

```
Student@L2-21 MINGW64 /d/Yash-04 (master)
$ git branch
  Div-A-A1
* master
```

8) Switching to the new branch

```
Student@L2-21 MINGW64 /d/Yash-04 (master)
$ git checkout A-division-A1
A       yash/example.txt
Switched to branch 'A-division-A1'
```

9) Switvhing branch using switch command

```
Student@L2-21 MINGW64 /d/Yash-04 (Div-B)
$ git switch master
A       yash/example.txt
Switched to branch 'master'
```

10) Creating +Switching

```
Student@L2-21 MINGW64 /d/Yash-04 (master)
$ git switch -c Div-C
Switched to a new branch 'Div-C'
```

11) Deleting a branch

```
Student@L2-21 MINGW64 /d/Yash-04 (master)
$ git branch -d Div-A-A1
Deleted branch Div-A-A1 (was c8f01a5).
```

12) Logging history

```
Student@L2-21 MINGW64 /d/Yash-04 (Div-B)
$ git log
commit c8f01a569ede66a8b3428ddba021b922a927cf0f (HEAD -> Div-B,
master, A-division-A1)
Author: Yash <yasharote28@gmail.com>
Date:   Mon Jan 20 14:12:45 2025 +0530

    first commit

commit f81f24c74ec49652a844165ccd0c525f2bdc98c2
Author: Yash <yasharote28@gmail.com>
Date:   Mon Jan 20 13:48:16 2025 +0530

    first commit
```

13)Git merge commands:-

```
Student@L2-21 MINGW64 /d/Yash-04 (Div-C)
$ git merge master
Already up to date.
```

To merge one branch into another(**Making changes In master and then merging them into Div-C)**

```
Student@L2-21 MINGW64 /d/Yash-04 (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   yash/example.txt


Student@L2-21 MINGW64 /d/Yash-04 (master)
$ git commit -m "Third commit"
[master 46a2db5] Third commit
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 yash/example.txt

Student@L2-21 MINGW64 /d/Yash-04 (master)
$ git switch Div-C
Switched to branch 'Div-C'
```

```
Student@L2-21 MINGW64 /d/Yash-04 (Div-C)
$ git merge master
Updating c8f01a5..46a2db5
Fast-forward
 yash/example.txt | 0
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 yash/example.txt
```

14) To avoid entering your credentials repeatedly u can cache them using git's credential helper

```
Student@L2-21 MINGW64 /d/Yash-04 (master)
$ git config --global credential.helper cache
```

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Github:

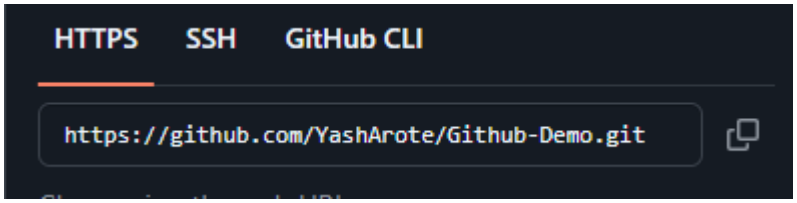
git clone

This command is use to create copy of an existing repository.it is a way to get a local copy of a project that u can work on.

Cloning a repository:-

1)Find the repository url.

2)Go to repo u want to clone(on github or gitlab)



3)Run the clone command

```
Student@L2-21 MINGW64 /d/Yash-04 (master)
$ git clone https://github.com/YashArote/Github-Demo.git
Cloning into 'Github-Demo'...
warning: You appear to have cloned an empty repository.
```

Git clone command is followed by the repository url.It helps us to navigate the repository

4)Enter the repo directory.After cloning navigate into repo directory.

```
Student@L2-21 MINGW64 /d/Yash-04 (master)
$ cd Github-Demo
```

5)Add new files and commit your work.

This will create a local copy of Github-Demo repository and place you inside the repository directory,ready to start working.

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```
Student@L2-21 MINGW64 /d/Yash-04/Github-Demo (main)
$  vim first.txt

Student@L2-21 MINGW64 /d/Yash-04/Github-Demo (main)
$ git log
commit 5f0249b3ad433e55b51c45581bedb7171b1334e1 (HEAD -> main, origin/main, origin/HEAD)
Author: YashArote <99126167+YashArote@users.noreply.github.com>
Date:   Mon Jan 27 14:06:43 2025 +0530

    Create sample.txt

commit 16019f2f660f3ce9ceb5648817092cb584502f8a
Author: YashArote <99126167+YashArote@users.noreply.github.com>
Date:   Mon Jan 27 14:05:48 2025 +0530

    Create README.md

Student@L2-21 MINGW64 /d/Yash-04/Github-Demo (main)
$ git add .
warning: in the working copy of 'first.txt', LF will be replaced by CRLF the next time Git touches it

Student@L2-21 MINGW64 /d/Yash-04/Github-Demo (main)
$ git commit -m "Save changes"
[main 753d0cc] Save changes
 1 file changed, 1 insertion(+)
 create mode 100644 first.txt
```

```
$ echo "new readme" >README.md
```

Echo command will create a file with name README.md with the contents specified.

Working with git remote.it is essential when u want to collaborate on projects or keep your code backed up services like github or gitlab

1)Add a remote repository

```
Student@L2-21 MINGW64 /d/Yash-04/Github-Demo (main)
$ git remote add origin https://github.com/YashArote/Github-Demo.git
error: remote origin already exists.
```

2)To push to repository

```
Student@L2-21 MINGW64 /d/Yash-04/Github-Demo (main)
$ git push
Enumerating objects: 9, done.
Counting objects: 100% (9/9), done.
Delta compression using up to 12 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (7/7), 685 bytes | 685.00 KiB/s, done.
Total 7 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/YashArote/Github-Demo.git
   5f0249b..b6c34f9  main -> main
```

3)To fetch

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```
$ git fetch
```

The fetch repository updates changes from remote to local

4)Pull the remote repository

```
Student@L2-21 MINGW64 /d/Yash-04/Github-Demo (main)
$ git pull origin main
From https://github.com/YashArote/Github-Demo
 * branch            main       -> FETCH_HEAD
Already up to date.
```

To pull updates from the remote repository and merge them into your local repository

5)List remote repositories

```
Student@L2-21 MINGW64 /d/Yash-04/Github-Demo (main)
$ git remote -v
origin  https://github.com/YashArote/Github-Demo.git (fetch)
origin  https://github.com/YashArote/Github-Demo.git (push)
```

To see which remote is you have configured

6)Remove a remote repository

git remote remove origin

7)Merging

```
Student@L2-21 MINGW64 /d/Yash-04/Github-Demo (main)
$ git merge origin
Already up to date.
```