

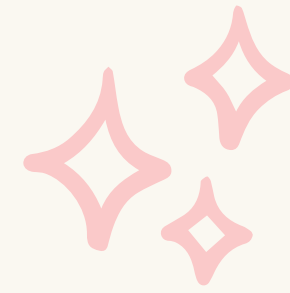
PFC

lec 21

git & github

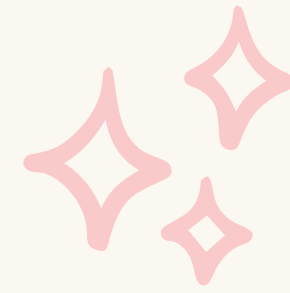


Lecture Flow



1. what is version control
2. what is git
3. what is github
4. installation & setup
5. push code in github

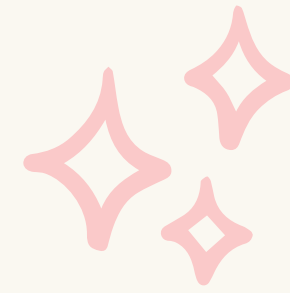
version control



Version control is a system that:

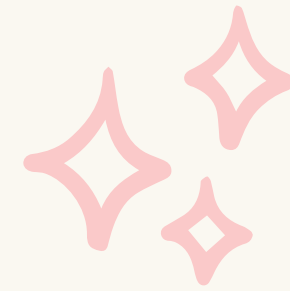
- ✓ Tracks changes in files
- ✓ Helps restore previous versions
- ✓ Supports collaboration among multiple developers

git



Git is a distributed version control system used to track changes in source code. **Must have skill for every developer.** You need to know at least the basics (add commit push etc.)

1. Version Tracking
2. Collaboration
3. Open Source & free
4. Speed



GitHub is a cloud platform that hosts Git repositories and enables sharing, teamwork, and project management.

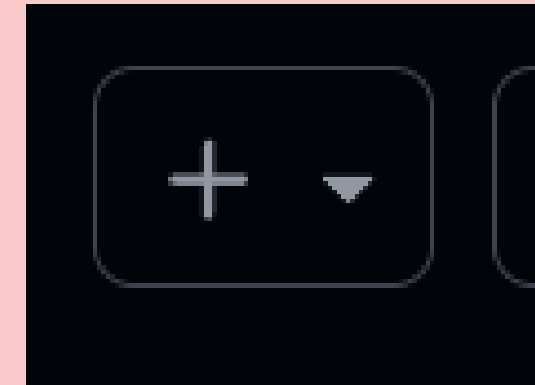
Git = Tool

GitHub = Storage + Collaboration platform

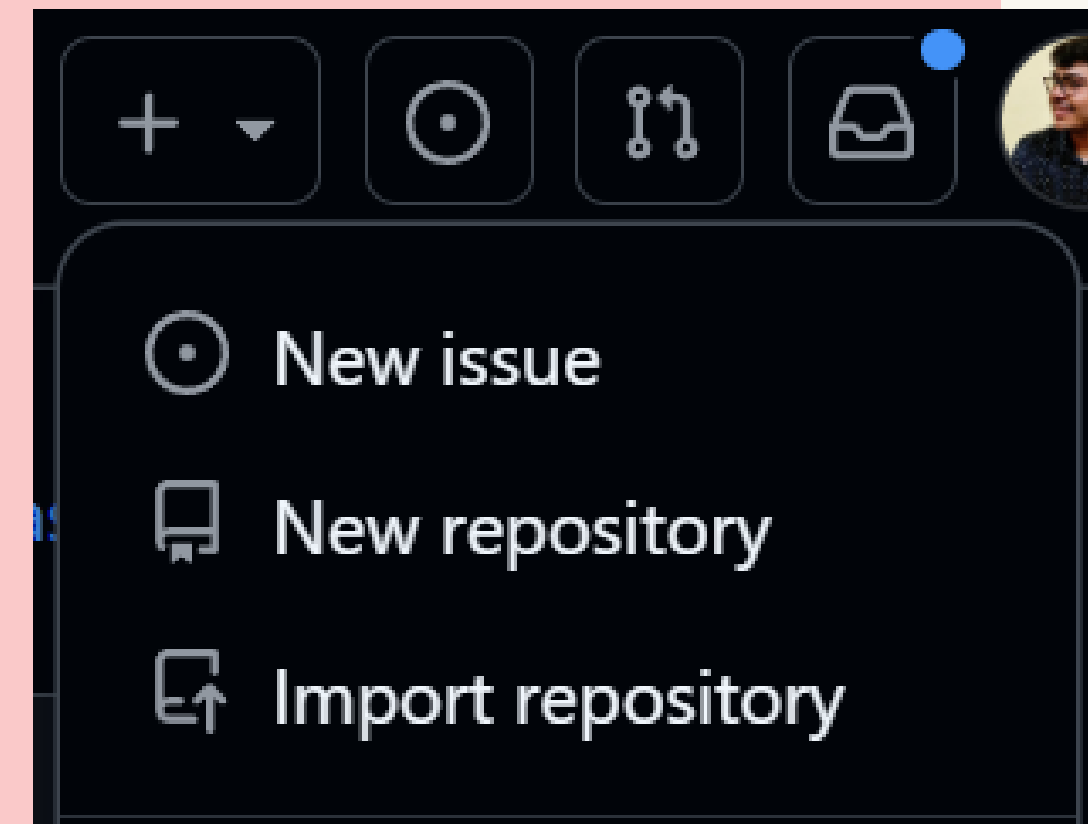
**HOSTING - STORING IT AT A PLACE WHERE
OTHERS CAN ACCESS IT [ONLINE]**

add code via upload ✨

click on the plus icon on top bar




choose the new repository button



add code via upload ✨

Owner * / Repository name *

 ShivanshMehtaa / NameofYourRepository

✔ NameofYourRepository is available.

Great repository names are short and memorable. How about [psychic-lamp](#)?

Description

a sample description

20 / 350 characters

2 Configuration

Choose visibility *
Choose who can see and commit to this repository

Public

Add README
READMEs can be used as longer descriptions. [About READMEs](#)

On

Add .gitignore
.gitignore tells git which files not to track. [About ignoring files](#)

No .gitignore

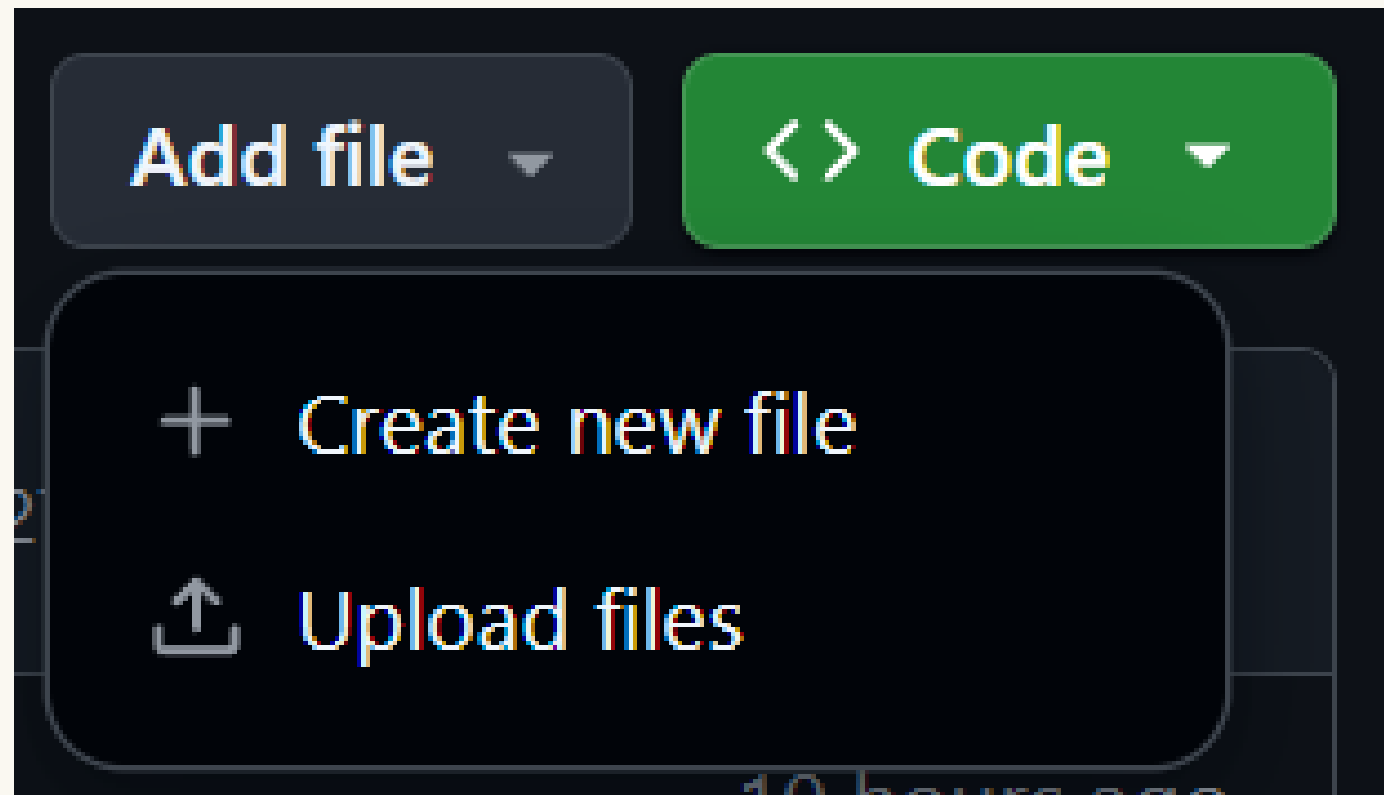
Add license
Licenses explain how others can use your code. [About licenses](#)

No license

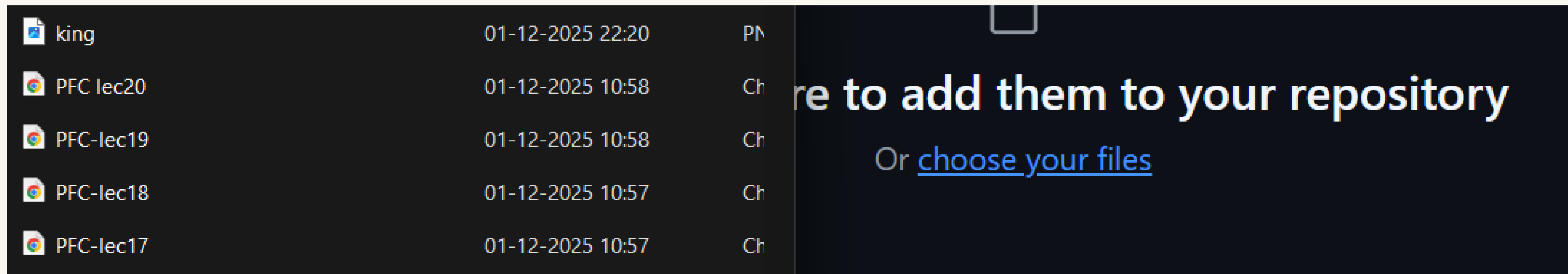
Create repository

make sure it is public and
you click on add a
Readme.md file

add code via upload ✨



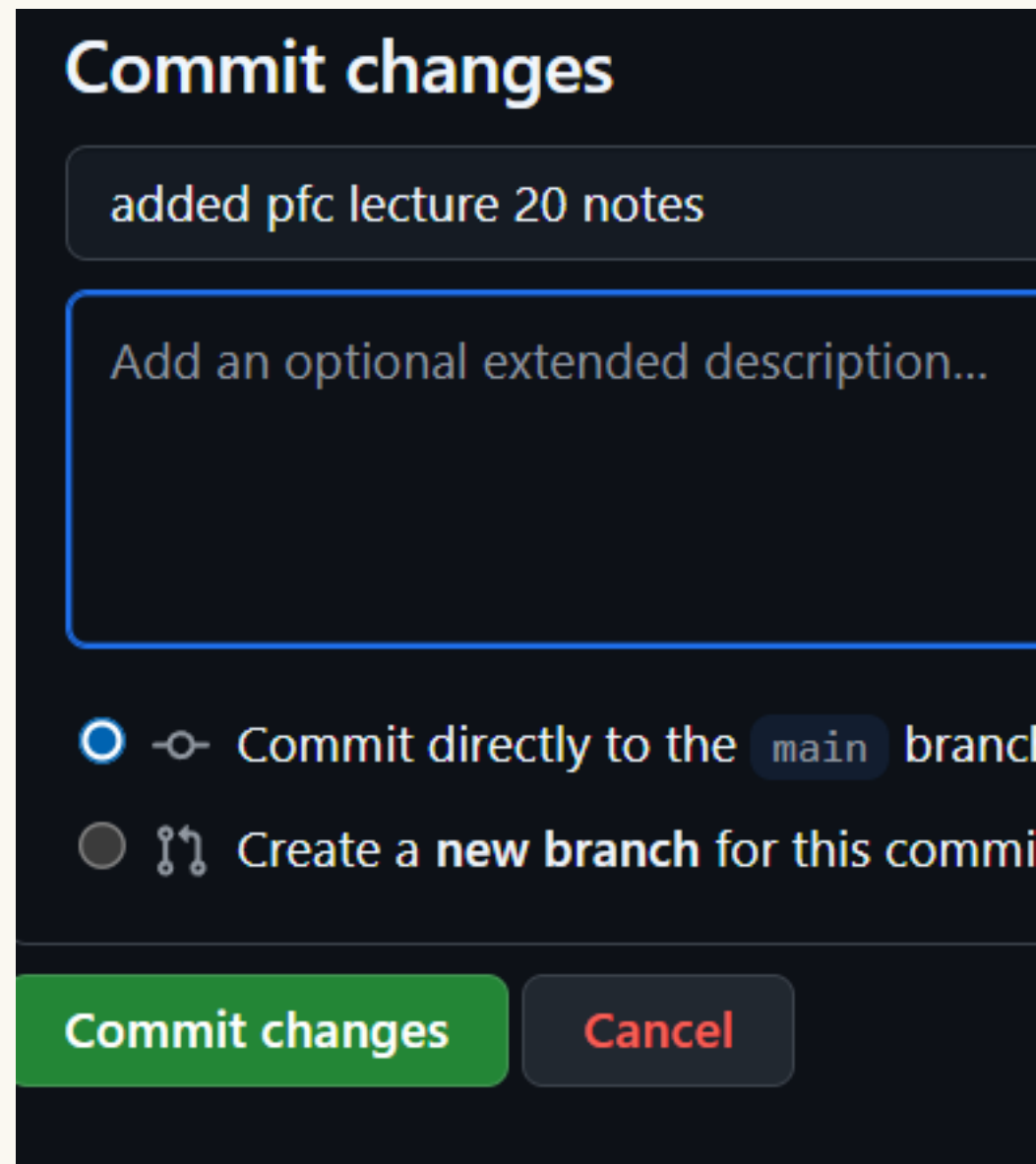
click on add files then the upload files button



drag and drop the file you want to upload

add code via upload ✨

add an appropriate message
and then click on commit
changes



The screenshot shows a 'Commit changes' dialog box. At the top, it says 'Commit changes'. Below that, there's a text input field containing 'added pfc lecture 20 notes'. Underneath the input field is a larger text area with the placeholder text 'Add an optional extended description...'. At the bottom, there are two radio button options: the first is selected and says 'Commit directly to the main branch', and the second is unselected and says 'Create a new branch for this commit'. At the very bottom, there are two buttons: a green 'Commit changes' button and a grey 'Cancel' button.

here you'll be able to see the
newly added file



installing



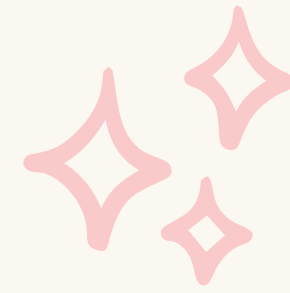
git-scm.com/downloads



```
git config --global user.name "Your Name"
```

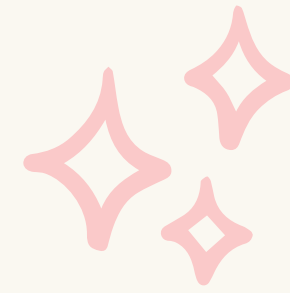
```
git config --global user.email "your.email@example.com"
```

imp. terms



1. **Repository** - folder where git tracks project files
2. **Working Directory** - your project files on your computer
3. **Staging Area** - safe checkpoint for your code, prepares your code for commit step
4. **Commit** - staging area to local repository
5. **Remote Repository** - online repository like github

git init

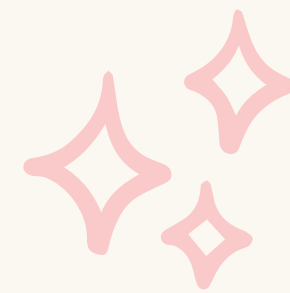


Initializes a new Git repository in your project folder. It tells Git to start tracking this folder.

eg- Mera project ready hai, ab ise track karo ki mai kya changes ya karta jaa rha hu

command - git init

git add



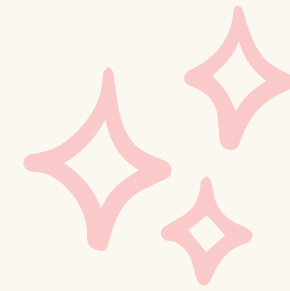
Moves files from working directory to staging area.
It prepares them for commit.

eg- Yeh homework final ho gaya, ab notebook me chipka do.

command - git add index.html [single file add karne ke liye]

command - git add . [multiple files add karne ke liye]

git status



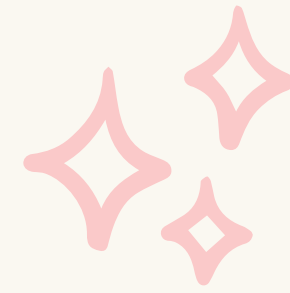
Shows the current state of the repository —
Which files are **modified, untracked, or staged**.
eg- *Abhi project ki kya condition hai? Kaunse
files pending hain? Kaunse ready hain?*

command - git status

red - *unstaged*

green - *staged*

git commit



Saves tracked/staged changes permanently in the local repository with a message.

eg- *“Aaj ka kaam complete hua.” [diary enry bana di ki aaj kya kya hua hai]*

command - git commit -m "homepage completed" [“Message likh kar save kar diya — homepage complete.”] [inside “ we write the message“]

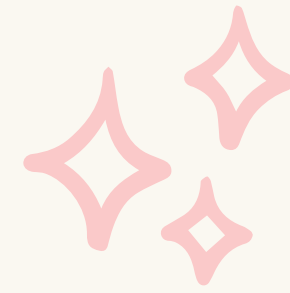
git remote add origin ✨

With this command you are telling git where i have to store/send the code online?

REMOTE-URL - the GitHub link of your repository

After running this command, Git knows where to push your code online.

git branch -M main



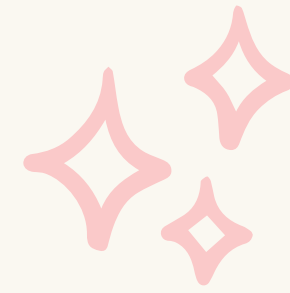
this command creates a “**main**” timeline in your application, this “**main**” branch is then divided into other parts depending on code/project

git branch - creates a branch

-M -used for renaming

main - required by github [rule]

git push

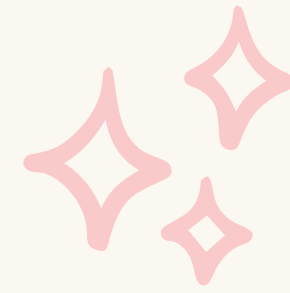


Uploads your local commits to a remote repository (e.g., GitHub).

**eg- Assignment/Lab Record ki photocopy
teacher ko submit kardo**

command - git push origin main [“mera project github pe upload ho gaya”]

git clone



git clone is used to copy an existing repository from the internet (GitHub) to your local computer.

eg- *“Kisi doosre project ki copy apne computer par le aao.”*

command -

git clone https://github.com/user/project.git
now you can do anything to that project

WORKFLOW

