**Git:**

Git is a version control system that lets you track changes in your code, collaborate with others, and manage different versions of a project over time.

**Why use Git:**

**Track changes:** See who changed what, when, and why.

**Undo mistakes:** Revert to a previous version if needed.

**Work in teams:** Merge code from different developers.

**Branching:** Try out features without affecting the main code.

**Git commands:**

**Git Setup:**

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

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

**Starting a Repo:**

**git init** # Initialize a local Git repository

**git clone <repo\_url>** # Clone a remote repo

**Basic Workflow:**

**git status** # Check current status of files

**git add <file>** # Stage a file

**git add .** # Stage all files

**git commit -m** "Your message" # Commit staged changes

**Working with Remotes:**

**git remote add origin <url>** # Link local repo to remote

**git push -u origin main** # Push for the first time

**git push** # Push changes

**git pull** # Pull changes from remote

**git fetch** # Fetch latest updates (without merging)

**Branching:**

**git branch** # List branches

**git branch <branch-name>** # Create new branch

**git checkout <branch-name>** # Switch to branch

**git checkout -b <branch-name>** # Create + switch to new branch

**git merge <branch-name>** # Merge branch into current

**Undoing Changes:**

**git reset <file>** # Unstage a file

**git reset --hard** # Reset everything to last commit

**git checkout -- <file>** # Discard local changes

**Viewing History:**

**git log** # View commit history

**git log --oneline** # Condensed log

**git diff** # Show file differences

**Deleting:**

**git branch -d <branch>** # Delete local branch

**git rm <file>** # Remove file and stage deletion

**Stashing:**

**git stash** # Save uncommitted changes

**git stash pop** # Reapply stashed changes