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Instructions:

(On how to set up Git and GitHub, including basic operations and other essential commands)

Installing Git:

1. Visit https://git-scm.com/and download the latest version compatible for your operating system (Windows/macOS/Linux).
2. Choose the appropriate installer:
    - Windows/x64 Setup
    - Windows/ARM64 Setup
3. Run the installer and follow the setup instructions.
    - Manage according to your setting preferences, if none- just leave it at default.
4. Verifying installation:
    - Create a new folder on your desktop, name it [ex: lastnameMidterms]
    - Right click inside the folder and select Show more options.
    - If Git is successfully installed, open Git Bash will appear on the screen.
      If not, proceed to download and manually run the Git installer again.
5. Once installed, go back to folder [lastnameMidterms]
6. Right click to confirm if Open Git Bash is displayed- if it is, Git is ready for use in your device.

Setting up GitHub Account:

1. Open web browser and visit Github.com
2. Click sign-up and enter your personal/school email address
3. Verify your email address to continue
4. Customize your profile, explore GitHub settings to adjust and set features, appearance, and preference.
5. Explore and be familiarized with using and operating GitHub, specifically GitHub basics consisting of its key features/operations.

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Git Commands used within the terminal as to create GitHub repository:

- **SETUP & INIT (Configuring user information, initializing and cloning repositories):**

git init - initialize an existing directory as a Git repository
git clone [url] - copy an existing Git repository.

- **SETUP (Configuring user information used across all local repositories):**

git config – global user.name “your name”
- set a name that is identifiable for credit when review version history

git config --global user.email “you@youraddress.com”
- set an email address that will be associated with each history marker

- **STAGE & SNAPSHOT (Working with snapshots and the Git staging area)**

git status - show modified files in working directory, staged for your next commit
git add [file] - add a file as it looks now to your next commit (stage)
git reset [file] - un-stage a file while retaining the changes in working directory
git diff - diff of what is changed but not staged
git diff --staged - diff of what is staged but not yet committed
git commit -m “[descriptive message]”
- commit your staged content as a new commit snapshot
- commits staged changes to the repository.

- **BRANCH & MERGE(Isolating work in branches, changing context, and integrating changes)**

git branch - list your branches. a * will appear next to the currently active branch
git branch [branch-name] - create a new branch at the current commit
git checkout - switch to another branch and check it out into your working directory
git merge [branch] - merge the specified branch’s history into the current one
git log - show all commits in the current branch’s history

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Git Operations:

1. Version Control - Maintain history of the project made to track changes and return back to previous versions if needed.
2. Collaboration - it enables collaboration and easier sharing of codes and work simultaneously.
3. Organization - enables use of branches and merge requests to organize and manage work.
4. Code quality - facilitates code reviews through merge requests, and helps to maintain code quality and its consistency.
5. Backup and recovery - push changes to remote repositories making sure that work and progress is backed up and recoverable.

It is important to have good knowledge about key concepts of repositories, branches, commits, and merge requests, that together commands and perform git operations. Understanding their different functions and roles help using and coding with Git - easier, productive and efficient.

References:

GitHub Docs. (2025). *Creating an account on GitHub* . GitHub Docs.

https://docs.github.com/en/get-started/start-your-journey/creating-an-account-on-github

GitHub. (n.d.). *GIT CHEAT SHEET*.

https://education.github.com/git-cheat-sheet-education.pdf

GitLab Docs. (2025). *Basic Git operations*. Gitlab.com.

https://docs.gitlab.com/topics/git/basics/