**1.** **What is Git? What are the advantages of using Git?**

Git is a distributed version control system (brings a local copy of the complete repository to every team member's computer, so they can commit, branch, and merge locally) designed to handle everything from small to very large projects with speed and efficiency. It allows multiple developers to work on a project simultaneously without interfering with each other's work.

**Advantages of using Git:**

* **Distributed Development:** Each developer has a local copy of the entire project history.
* **Speed:** Local operations are very fast since there is no need to communicate with a central server.
* **Branching and Merging:** Git makes branching and merging simple and efficient.
* **Data Integrity:** Git ensures that the data is not corrupted and every file change is tracked.
* **Staging Area:** Allows you to prepare your commit exactly how you want it.
* **Flexibility:** Supports non-linear development workflows.

**2.** **What do you understand by the term ‘Version Control System’?**

A Version Control System (VCS) is a tool that helps manage changes to source code over time. It tracks modifications, maintains a history of versions, and allows multiple developers to collaborate on the same project. VCSs provide functionalities such as branching, merging, and reverting to previous versions, making it easier to manage and coordinate the development process.

**3. What’s the difference between Git and GitHub?**

* **Git:** Git is a distributed version control system that manages and keeps track of changes to source code. It is a tool used locally by developers to handle their source code.
* **GitHub:** GitHub is a web-based platform that hosts Git repositories and provides additional features such as issue tracking, project management, and collaboration tools. It serves as a remote repository where developers can share their code and collaborate with others.

**4. Name a few Git commands with their function.**

* git init: Initializes a new Git repository.
* git clone <repository\_url>: Clones a remote repository to the local machine.
* git add <file>: Stages changes to be committed.
* git commit -m "message": Commits staged changes to the repository with a message.
* git status: Shows the status of changes as untracked, modified, or staged.
* git push: Pushes local changes to the remote repository.
* git pull: Fetches and merges changes from the remote repository to the local repository.
* git branch: Lists all the branches in the repository.
* git checkout <branch>: Switches to a specified branch.
* git merge <branch>: Merges a specified branch into the current branch.

**5. Difference between Git Fetch and Git Pull.**

* **Git Fetch:** Downloads commits, files, and references from a remote repository into your local repository. It updates your remote-tracking branches but does not merge these changes into your working directory. This allows you to review changes before integrating them.
* **Git Pull:** Combines git fetch and git merge. It downloads changes from the remote repository and immediately merges them into your local working directory. This command updates your current branch with the latest changes from the remote branch.