1. Concepts of Git explaining various terms.

Git is a version control system that can be used to track changes in the code while we work on some projects. Git also gives a provision for collaboration with some other developers on projects.

Some key terms and their concepts associated with Git:

(a) Repository: A repository is a storage space where we can store data including history, configuration, etc related to the project. There are mainly two types of repositories. Those are local repository and remote repository.

(b) Clone: Cloning is the process of creating or downloading a copy of a remote repository to our local system.

(c) Forking: It is the process of making a copy of someone else’s repository so that we can independently make changes to our new personal copy.

(d) Branch: It is a separate line of development where developer can make changes in the code independently without changing the main codebase until we merge changes.

(e) Merge: Process of combining changes from different branches.

(f) Commit: Represents a set of changes made to the repository.

(g) Push: It is used to upload a document or the changes that we made in the local repository to the remote repository.

(h) Pull: It is used to fetch changes from remote repository and merge them into the current branch.

(i) Fetch: It is used to download changes from the remote repository without merging them directly into the current branch.

(j) Pull Request: It is a way to propose changes to the repository and allows collaborator to review the changes suggested before directly merging to the branch.

2. Write basic commands of git.

(a) git init: Initializes new git repository in the current directory.

(b) git clone <repository\_url>: for creating a copy of the remote repository to the local system or machine.

(c) git add <file(s)>: To add changes in the working directory to the staging area.

(d) git commit -m “message “: To record changes from the staging area to the repository.

(e) git status: It shows the changes that are modified, untracked, or staged. It will display the status of the working directory and staging area.

(f) git pull: To fetch changes from the remote repository and merge them into the current branch.

(g) git push: To upload or push the changes from the local repository to the remote repository.

(h) git branch: To create a new branch or lists the existing branch.

(i) git checkout <other\_branch>: To switch to another branch.

(j) git merge <branch\_name>: To combine changes from different branches.

(k) git remote -v: To get information about the remote repositories associated with the project including its URL for fetch and push.