

WORK-CASE №1

1. Git is a distributed version control system used to track changes in the file structure of a project. The main purpose of Git is to facilitate collaborative work among developers, track changes, and provide the ability to revert to previous versions of a project. The fundamental operations and commands in Git include:
 - git init: Initializing a new repository.
 - git clone: Creating a copy of a remote repository on a local computer.
 - git add: Adding modified or new files to the staging area for a commit.
 - git commit: Capturing the current state of the repository, creating a commit with changes, and adding a commit message.
 - git status: Displaying the status of the working directory and the staging area.
 - git log: Viewing commit history.
 - git pull: Updating the local repository to the latest version from the remote repository.
 - git push: Sending local changes to the remote repository.
 - git branch: Displaying and managing branches in the repository.
 - git merge: Merging branches.
 - git diff: Comparing changes between commits or branches.
2. A "commit" in Git is a key mechanism for storing changes in a repository. Each commit represents a snapshot of the repository's state at a specific point in time. Commits allow tracking the history of changes in files and in the project as a whole. Each commit has a unique identifier (hash) used to reference it.

When creating a commit, you save the changes that have been added to the staging area (using git add). You can also attach an explanatory message that describes the changes made in that commit. Commits are used to create a history of changes that can be viewed using git log, and they provide the ability to return to previous states of the repository to recover earlier versions of the project.

3.

