**Work-case 1**

Git is a distributed file versioning and collaboration system used to track and maintain the change history of files in your project. With Git, you can roll back your project to an older version, compare, analyze, or commit your changes to the repository.

A commit is a "snapshot," a copy of your project at the time that commit was created. Git stores all information about what was changed in a commit, when that commit was created, and by whom, making it much easier for a team to work on a project.

The main commands used in Git are:

Git help – list of all commands

Git add - adds the contents of the working directory to the index for the next commit.

Git status - will show you the various states of the files in your working directory and index.

Git diff - is used when you want to see the difference between some two trees.

Git difftool - runs an external tool to show you the difference between the two branches.

Git commit - takes the contents of all the files you indexed with the git add command and writes a new permanent footprint to the database, then moves the current branch pointer to it.

Git reset - mostly used to undo things.

Git rm - used to extract files from the Git index and working directory.

Git mv - moves the file, does git add for the new file and git rm for the old one.

Git clean - used to remove unwanted files from your working directory. This may include removing temporary build results or merge conflict files.

Git branch – a command that can list existing branches, create a new branch, remove branches, and rename them.

Git checkout - is used to switch branches and fetch content to your working directory.

Git merge - is used to merge one or more branches into the current branch. It then moves the current branch to the result of the merge.

Git remote – is a command to manage your remote storage records.

Git fetch - communicates with the remote repository and retrieves from it all available information that is not in the current repository and stores it in the local database.

Git push - is used to contact another repository, calculate what is in your local database and not in the remote one, and then send the difference to the other repository.

Git pull - is a combination of git fetch and git merge, i.e. Git will fetch the changes from the specified remote repository and then immediately try to merge them into the current branch.