***Git and GitHub***

**1. What is Version Control System?**

**ANS:**

**2. Which are the two types of VCS?**

**ANS: \*Centralised Version Control System**

**\*Distributed Version Control System**

**3. Which type of VCS is supported by GIT?**

**ANS: \*Distributed Version Control System**

**4. Explain workflow In GIT?**

**ANS:**

Working

directory

PULL

GITHUB

REPOSITORY

GIT

LOCAL

REPOSITORY

STAGING

COMMIT

ADD

PUSH

UNTRACKED FILES

TRACKED FILES

REMOTE FILES

COMMITED FILES

**5. What are the various commands used in Virtual Control System?**

**ANS:\* git ---version**

**\*git init**

**\*git status**

**\*git add: {git add -a or git add . }:to add all files to staging or{ git add 1.txt 2.txt}:to add specific files**

**\*git config --global user.email “your email id”**

**\*get config --global user.name “your name”**

**\*git commit -m “comment for files”**

**\*git log**

**\*git diff <name of the file>**

**\*git rm <name of the file>**

**\*git push**

**\*git pull**

**\*git clone**

**6. Explain commands used in VCS?**

**ANS:**

**GIT INIT: To create new or empty git repository. This will create a hidden folder with git name.**

**GIT STATUS: Git status will show the status of the files available for operation.**

**GIT ADD: Untracked files in working directory will be added to staging area.**

**COMMIT: All the traced files in staging area will be added to git-local repository.**

**GIT LOG: this will show how many times the files are committed.**

**GIT DIFF: To see the difference between contents of files.**

**GIT RM: To remove files from various places in VCS.**

**GIT CHECKOUT: We can use checkout command to discard unstaged changes in the tracked files of working directory.**

**GIT RESET: To remove changes from staging area or to undo commits at repository level.**

**PUSH: All the committed files from local git repository are uploaded or sent to GITHUB repository.**

**PULL: If anyone wants to get files or codes from GITHUB repository to local repository.**

**CLONE: If someone wants to get all code or full repository from GITHUB repository then we can use this command.**

**7. Explain the git diff command?**

**ANS: This command is used to check the difference between two files.**

**Requirement 1: To see difference in file content between working directory and staging area. {git diff <name of the file>}**

**We will get following result:**

**Diff –git a/index.txt b.index.txt**

**Index fcb5845..b5bf6bc 100644**

**--- a/index.txt**

**+++ b/index.txt**

**@@-1 +1,2@@**

**Animals**

**+birds**

**Here a and b are source and destination files. here index is the name of the file.**

**Fcb8545—hash of file content from source**

**B5bf6bc—hash of file from content from destination.**

**100=it represents type of the file.**

**644=file permission of the file in linux**

**If any line prefixed with space means it is unchanged.**

**If any line prefixed with + means it is added in destination copy**

**If any line prefixed with – means it is removed from destination copy.**

**Requirement 2: To see the difference between two files one in working directory and one which is last committed in local repository.**

**{git diff HEAD <name of the file>}**

**Last commit is represented by HEAD.**

**Requirement 3: To see difference between content of the files staged copy and last commit.**

**{git diff -- staged HEAD <name of the file>**

**To compare file content between master branch and test branch={git diff master test}**

**8. Command to check files available in staging area?**

**ANS: {git ls –files}**

**9. How to remove files in VCS?**

**ANS:**

**To remove files from staging and working directory={git rm file1.txt}**

**To remove all files from staging and working directory={git rm –r .}**

**To remove files only from staging area={git rm – cached file2.txt}**

**To remove files only from working directory={rm file3}**

**10.**