GIT and GITHUB

ASSIGNMENT

1. **What is Git?**

   Ans: Git is an open source distributed version control system, which is used to handle smaller to bigger project modules. It helps to collaborate the code and helps to keep track of changes in code. It was developed by Linus Torvalds in 2005.

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

   Ans: Version control system is a software used to track or record the changes to a file or a set of files over time so that it can recall a specific version in future. It helps developers to work together with other developers.

3. **What is GitHub?**

   Ans: GitHub is a Git repository hosting service, which is to provide a remote server to developers for collaboration and access control of code and to maintain the file version.
   It offers both distributed version control and source code management (SCM).

4. **Mention some popular Git Hosting services?**

   Ans: There are the various types of Git Hosting services available on the internet. Some of them are as follows:

   - Bitbucket
   - GitHub
   - GitLab
   - Perforce
   - Beanstalk
   - Amazon AWS CodeCommit
   - Codebase
   - Microsoft Azure DevOps
   - SourceForge
   - Gerrit
   - And many more….

5. **Different types of version control systems.**

   Ans: There are three types of version control system, which are as-

   a) Local Version Control System (LVCS)
   b) Centralized Version Control System (CVCS)
   c) Distributed Version Control System (DVCS)

6. **What benefits come with using GIT?**

   Ans: There are the following points, which shows the benefits come with using GIT-

   - It **Saves Time**, because it is a lightweight technology which executes the command to remote/main server within a second and saves a lot of time.

- It provides the scenario of **Offline working**, if there is an issue of internet connectivity or facing a lot of problem related to hardware/software, it doesn't impact and affect on work. Every work almost done on locally first, comparatively to CVCS like SVN.
- We can **Undo mistakes**; it gives a savior option to undo the work and make changes.
- It gives the **track of changes**; we can check status and history of changes in file.

7. **What is a Git repository?**

   Ans: Git Repository is the type of repository like data structure, which is used to store data or metadata, a file or set of files and directories and contain history of changes made. It is used by VCS (Version Control System).

   It can be obtained in two ways:

   I. Local repository
   II. Remote repository

8. **How can you initialize a repository in Git?**

   Ans: In GIT, a repository can be initialized in the following format-

   If a file is share on a version control system and control it with Git. Then start the git command line in Git Bash. To initialize a new repository, run the following command:

   TYPE> **$ git init**

   This above command initialized or create an empty Git repository named .git that holds all necessary repository files on local workspace (project folder).

   If we want to start version controlling on it, we should have to track these files to stage area/ index area/ staging area from a git add command followed by the filename:

   TYPE> **$ git add<filename>**

   If all files are ready to store in local repository, then it will send to local repository by the git commit commad:

   TYPE> **$ git commit -m "**commit message…**"**

   If we want to share this files to others then we should have to push this file form local repository to the remote repository server by the git

   TYPE> **$ git push <remote> <local>**