**GIT Homework**

1) How to resolve GIT conflict?

Git can handle most merges on its own with automatic merging features. A conflict arises when two separate branches have made edits to the same line in a file, or when a file has been deleted in one branch but edited in the other. The easiest way to resolve conflicted file is-

* Open it and make any necessary changes.
* After editing the file, we can use the git add a command to stage the new merged content
* The final step is to create a new commit with the help of the git commit command
* Git will create a new merge commit to finalise the merge

2) Why are GIT branches needed?

Branching allows teams of developers to easily collaborate inside of one central code base.when a developer creates the branch, the version control system creates a copy of the code base at that point in time. Changes to the branch don’t affect other developers on the team.as features under development can create instability, which would be highly disruptive if all work was happening on the main code line.

3) What is a GIT trunk?

The “mainline” or the “master branch” in GIT is called “trunk”. Trunk based development is a version control management practice where developers merge small, frequent updates to a core “trunk” or main branch.

4) Why is GIT better than SVN?

The ability to work locally and offline is one major advantage to GIT. SVN requires contributors to be connected to the main repository server, which essentially eliminates working offline. GIT also outperforms SVN when it comes to merging and conflict resolution.

5) What's the difference between GIT fetch vs Pull?

The git fetch command downloads the new changes or new data from the remote server. The git pull command downloads the changes directly and then applies those changes to the current working files. The git fetch command does not change or manipulate or spoil the data of the remote repository.

6) When a GIT commit fails?

GIT commit fails, other developers are accessing the main and when they do some changes and push it back to main, we need to pull the changes with the command ‘git pull’ before committing the changes. It is mandatory to get the latest version before commiting.

7) How does the GIT clone command work?

Git clone is used to copy existing Git repositories into a new local directory. The Git clone command will create a new local directory for the repository, copy all the contents of the specified repository, create the remote tracked branches, and checkout on the initial branch locally.

8) How to check the GIT update ?

To check the Git update commands like ‘git status’ and ‘git pull’ are used.

9) What other tools/technology like GIT are in the market?

Subversion (SVN), CVS, Azure DEvOps Server, Helix Core, AWS code commit, Plastic SCM, Rational ClearCare, Mercurial, Micro Focus AccuRev.

10) What are GIT challenges/disadvantages?

* It lacks window support and doesn't track empty folders.
* GIT needs multiple branches to support parallel developments used by developers.
* There is no built-in access control and doesn’t support binary files.
* They do not provide access control mechanisms in case of security.

11) What are GIT BEST practices?

Best practices to follow while using Git are-

* Make incremental, small changes
* Keep commits atomic
* Develop using branches
* Write descriptive commit messages
* Obtain feedback through code reviews
* Identify a branching strategy

12) How often should a team merge to master?

Once a day; though if there is a lot of activity on your branches you may wish to merge multiple times a day.