1.What are the advantages of using Git?

a. The changes can be tracked.

b. It work as a backup. User can go back and start working in older version.

c. Long term history tracking, and error can be traced.

2.What language is used in Git?

C, Python and few more.

3.What is the meaning of “Index” or “Staging Area” in Git?

The staging area is like a rough draft space, it's where we can add the version of a file or multiple files that we want to save in our next commit.

4.What is the process for creating a repository in Git?

* Create a directory to contain the project.
* Go into the new directory.
* Type git init.
* Write some code.
* Type git add to add the files
* Type git commit.

5.What is ‘head’ in Git and how many heads can be created in a repository?

Each head has a name (branch name or tag name, etc). By default, there is a head in every repository called master. A repository can contain any number of heads.

6.Why do we need branching in Git?

Branches serve as an abstraction for the edit/stage/commit process. You can think of them as a way to request a brand-new working directory, staging area, and project history.

7.Write a way to create a new branch in Git?

1. From the repository, click **+** in the global sidebar and select **Create a branch** under **Get to work**.
2. From the popup that appears, select a **Type** (if using the [Branching model](https://confluence.atlassian.com/x/TwlODQ#branching_model)), enter a **Branch name** and click **Create**.
3. a branch, you need to check it out from your local system. Use the fetch and checkout commands that Bitbucket provides, similar to the following:
4. Make your changes locally and then add, commit, and push your changes to the <feature> branch:
5. Click the **Source** page of your repository. You should see both the master and the <feature> branch in the branch’s dropdown. When you make commits to the feature branch, you'll see the files specific to that branch.

8.How do you define a ‘conflict’ in Git?

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. Conflicts will most likely happen when working in a team environment.

9.How to resolve a conflict in Git?

10.What is the function of ‘git config’?

The git config command is a convenience function that is used to set Git configuration values on a global or local project level. These configuration levels correspond to. gitconfig text files.

11.What is Git fork?

A fork is a copy of a repository. Forking a repository allows you to freely experiment with changes without affecting the original project.

12.Difference between fork, branch and clone?

Forking is something you’ll typically do once when you start working on the project. An exception to that would be if the repo is yours, in which case, you’ll want to clone it locally on your computer. Under the hood, that’s pretty much the same thing.

Creating a branch is something you’ll do regularly if you are collaborating with anyone or if you are maintaining multiple releases simultaneously. It’s a way of keeping your work separate from the main branch until it is complete and tested. I’ve used branches even when I’m working on a project alone.

13.What's the difference between a "pull request" and a "branch"?

A branch is just a separate version of the code.

A pull request is when someone take the repo, makes their own branch, does some changes, then tries to merge that branch in

14.What is the difference between "git pull" and "git fetch"?

git fetch is the command that tells your local git to retrieve the latest meta-data info from the original (yet doesn’t do any file transferring. It’s more like just checking to see if there are any changes available).

git pull on the other hand does that AND brings (copy) those changes from the remote repository.

15.How to revert previous commit in Git?

If you wish to [undo/revert the last commit](https://git-scm.com/docs/git-revert) you can do the following, using the commit hash that you get from the git log command:

git revert <commit hash>

This command will create a new commit with the “Revert” word in the beginning of the message. After this, if you check your repository status, you’ll notice that you have the HEAD detached at the commit you tested before.

16.Explain the advantages of Forking Workflow

The main advantage of the Forking Workflow is that contributions can be integrated without the need for everybody to push to a single central repository.

17.Difference between HEAD, working tree and index, in Git?

HEAD: HEAD is a pointer to the branch or commit that you last checked out, and which will be the parent of a new commit if you make it.

Index: The git "index" is where you place files you want commit to the git repository.The index is a staging area where the new commit is prepared.

18.How to identify if a certain branch has been merged into master?

Let's assume you want to check if branch a is merged in master.

* Invoke git log in a and copy the last commit id (40 symbols)
* Switch to master and type git rev-log <copied id>..HEAD

If you see no output it means no, a is not merged into master. Git rev-log command just shows commits between two heads.

19.What is the use of a Git clone?

git clone is a Git command line utility which is used to target an existing repository and create a clone, or copy of the target repository.

20.What is Git stash?

Stashing takes the dirty state of your working directory — that is, your modified tracked files and staged changes and saves it on a stack of unfinished changes that you can reapply at any time .

21.When should I use "git stash"?

Stash is a convenience method. Since branches are so cheap and easy to manage in git, it is always preferred creating a new temporary branch than stashing.

22.What is Git stash drop?

we use git stash drop command to remove it from the list of stashes.

23.What is Git stash save?

24. What README.MD? What is its purpose? What does MD stand for?

.md is [markdown](https://daringfireball.net/projects/markdown/syntax). README.md is used to generate the html summary you see at the bottom of projects

25. How to create repository from command prompt?

touch README.md

git init

git add README.md

git commit -m "first commit"

git remote add origin git@github.com:alexpchin/<reponame>.git

git push -u origin master

26. What is the function of ‘git checkout’ in Git?

The git checkout command lets you navigate between the branches created by git branch

27. How can you bring a new feature in the main branch?

28. What is the function of ‘git rm’?

29. What is the function of ‘git stash apply’?

In Git, the stash operation takes your modified tracked files, stages changes, and saves them on a stack of unfinished changes that you can reapply at any time. Now, you want to switch branches for customer escalation, but you don't want to commit what you've been working on yet; so you'll stash the changes.

30. What is the use of ‘git log’?

git log lists the commits made in that repository in reverse chronological order; that is, the most recent commits show up first.

31. What is ‘git add’ is used for?

The git add command is the first command in a series of operations used to save to a Git repository the changes you made to files and folders therefrom

32. What is 'git diff' is used for?

**Diff command is used in git to track the difference between the changes made on a file**.

33. What is ‘git status’ is used for?

The git status command displays the state of the working directory and the staging area. It lets you see which changes have been staged, which haven't, and which files aren't being tracked by Git. Status output does not show you any information regarding the committed project history.

34. Can we create multiple branch with one command?

Git offers a feature referred to as a worktree, and what it does is allow you to have multiple branches running at the same time. It does this by creating a new directory for you with a copy of your git repository that is synced between the two directories where they are stored

35. what is the command that is used to delete a branch?

To delete the local branch, just run the git branch command again, this time with the -d (delete) flag, followed by the name of the branch you want to delete (test branch in this case).

36. What is another option for merging in git?

Git merge will combine multiple sequences of commits into one unified history. In the most frequent use cases, git merge is used to combine two branches

37. How to remove a file from git without removing it from your file system?

38. Use of "git rebase" instead of "git merge"?

Git rebase and merge both integrate changes from one branch into another. Where they differ is how it's done. Git rebase moves a feature branch into a master. Git merge adds a new commit, preserving the history

39. What is a repository in Git?

Git repository is just a file location where you are storing all the files related to your project. When you git commit your code, a version/snapshot is created in your local repo. Remote repository: A remote repository generally lies somewhere outside your system, on a remote machine.

40. Command used to write a commit message?

A shortcut command that immediately creates a commit with a passed commit message. By default, git commit will open up the locally configured text editor, and prompt for a commit message to be entered. Passing the -m option will forgo the text editor prompt in-favor of an inline message

41. What does commit object contain?

42. Write one use-case of Github?

43. Name some alternative of Git?

Apache, Bazaar, Fossil, Mercurial SCM

44. What is a gist in Git?

Gist is an easy method to share snippets or excerpts of data with others. A gist can be a string of code, a bash script or some other small piece of data

45. What is a gist programming?

Gists are generally used as scratchpad / notepad, to write down small (or not so small) snippets of code or other information, written directly in the web interface, without the need to start a new project on your computer.

46. Name any two Git repository hosting services which are common?