**Answers to Task 5 Interview Questions**

**1. What is Git and why use it?**

Git is a distributed version control system that tracks changes in any set of computer files, usually used for coordinating work among programmers collaboratively developing source code. You use it to manage projects, revert to previous versions, and handle different versions of a codebase without interfering with each other's work.

**2. How do you push code to GitHub?**

To push code from your local repository to a remote repository on GitHub, you use the git push command. The most common command is git push origin main (or git push origin master), which sends your committed changes from your local main branch to the remote repository named origin.

**3. What is GitHub Pages?**

GitHub Pages is a free static site hosting service that takes HTML, CSS, and JavaScript files straight from a repository on GitHub, optionally runs the files through a build process, and publishes a website. It is an easy way to host a simple website directly from a Git repository.

**4. What is the difference between static and dynamic websites?**

* **Static websites** consist of pre-built files (HTML, CSS, JS) that are delivered to the user exactly as they are stored. The content does not change unless a developer updates the code.
* **Dynamic websites** generate content on the fly, typically using a server-side programming language and a database. The content can change based on user input, time of day, or other factors.

**5. How do you revert commits in Git?**

You can revert a commit using the git revert command. This command creates a new commit that undoes the changes made in a previous commit. Unlike git reset, which can rewrite history, git revert is a safer option because it preserves the project history.

**6. What is branching in Git?**

Branching is a core feature of Git that allows you to diverge from the main line of development and work on new features or fixes in isolation. The main (or master) branch is the default, and you can create new branches to work on features without affecting the main codebase.

**7. Explain pull requests.**

A pull request (PR) is a way for a developer to notify a team that a new feature or set of changes is ready for review. When you make a pull request on a platform like GitHub, you are asking for your changes to be pulled from your branch into another, usually the main branch. This provides an opportunity for code review and discussion before the changes are merged.

**8. How do you resolve merge conflicts?**

A merge conflict happens when Git cannot automatically combine changes from two different branches. To resolve a merge conflict, you must manually edit the conflicting file(s), choose which changes to keep, save the file, and then create a new commit to finalize the merge.

**9. How do you host a website for free?**

There are several ways to host a website for free. Common methods include:

* **GitHub Pages:** Best for static websites.
* **Vercel/Netlify:** Popular for modern front-end frameworks and static sites.
* **Firebase Hosting:** Great for web apps and static sites with additional backend services.

**10. What is continuous deployment?**

Continuous deployment (CD) is a software development practice where every code change that passes automated testing is automatically released to a production environment. This automates the final step of the development cycle, ensuring that new features and fixes are delivered to users as quickly and efficiently as possible.