Git, Bash, and Programming Basics

Git Basics

1. Initialize a Git repository: `git init`

2. Clone a repository: `git clone <repository_url>`

3. Check repository status: `git status`

4. Stage changes: `git add <file>`

5. Commit changes: `git commit -m "Commit message"`

6. Push to a remote repository: `git push`

7. Pull changes from a remote: `git pull`

8. Create a new branch: `git branch <branch_name>`

9. Switch to a branch: `git checkout <branch_name>`

10. Merge branches: `git merge <branch_name>`

11. View commit history: `git log`

12. Discard local changes: `git reset --hard`

13. Create a Git tag: `git tag <tag_name>`

14. Remove a Git tag: `git tag -d <tag_name>`

Bash/Command Line Basics

1. Navigate to a directory: `cd <directory_path>`

2. List files and directories: `ls`

3. Create a new directory: `mkdir <directory_name>`

4. Remove a file: `rm <file_name>`

5. Copy a file: `cp <source_file> <destination_directory>`

6. Move/Rename a file: `mv <old_name> <new_name>`

7. Display file content: `cat <file>`

8. Execute a script: `./<script_name>`

9. View manual page for a command: `man <command>`

10. Find files by name: `find <directory> -name <filename>`

11. Search for text in files: `grep <pattern> <file>`

12. Redirect output to a file: `command > output.txt`

Common Programming Words and Symbols

- **Variable**: A symbolic name for a value.

- **Function**: A reusable block of code.

- **Conditional Statement**: Executes code based on a condition (e.g., `if`, `else`).

- **Loop**: Repeats a block of code until a condition is met (e.g., `for`, `while`).

- **Comment**: An annotation in code for documentation.

- **Array**: A collection of elements, indexed by numbers.

- **String**: A sequence of characters.

- **Integer**: A whole number.

- **Float**: A number with a decimal point.

- **Boolean**: Represents true or false.

- **Operator**: Performs operations (e.g., +, -, *, /).

- **Function Call**: Invoke a function to execute its code.

- **Variable Assignment**: Set a variable's value.

- **Array Indexing**: Access elements in an array by index.

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