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Introduction to Git Fundamentals

Master the basics of Git for effective version control.

DEFINITION

> Git is a distributed version control system that helps track changes in files. It allows multiple people to collaborate on projects efficiently.

KEY CONCEPTS

Repository

A repository is a storage space for your project files and their history.

Commit

A commit is a snapshot of your project at a specific point in time.

Branching

Branching allows you to create separate lines of development for features or fixes.

Merging

Merging combines changes from different branches into one unified version.

Remote Repository

A remote repository is a version of your project hosted on the internet or network.

EXAMPLES

→ git init to create a new repository

→ git commit -m 'Initial commit' to save changes

→ git push origin main to upload changes to the remote repository

MEMORY TIPS

★ Remember 'C' for Commit and 'S' for Snapshot.

★ Think of branches as tree limbs for different project paths.

★ Use 'R' for Repository and 'R' for Remote to link concepts.

COMMON MISTAKES

✗ Forgetting to stage changes before committing.

✗ Not pulling the latest changes before pushing.

✗ Confusing local and remote branches.

QUICK RECAP

Git is essential for managing project versions and collaboration. Key concepts include repositories, commits, and branching. Understanding these fundamentals will enhance your coding workflow.