The student prepared the material: Трощинський Я.

**What is Git and Why do we use it**

Git is a distributed version control system. This means that every developer working on a project has a complete copy of the project`s history in their own computer or even in some cases phone. With seeing a full history you can:

* Track changes, exactly who, when and how redacted a project
* Revert to previous versions, so if anything bad happens, you have an easy backup
* Collaborate effectively, multiple people can work in the same project without overwriting each other`s changes

**Key Git actions and commands are:**

* Git init : Initializes a new Git repository
* Git add <file> : Adds a file to the staging area
* Git commit -m “Commit message” : Commits the staged changes to the repository
* Git log : Shows the commit history
* Git branch : Creates a new branch
* Git checkout : Switches to the specified branch
* Git merge : Merges the specified branch into the current one
* Git push origin : Pushes the current branch to a remote repository named “origin”
* Git pull origin : Pulls changes from a remote repository named “origin” and merges them into the current branch

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**What is a "commit" and how does it allow you to track changes to files?**

* Commit - is, in fact, a "snapshot" of the current state of the project stored in the history of the repository (Repository - is the main storage unit in Git, which is a database where all changes in the project are recorded. The repository contains a complete history of all commits, including full versions of all files and directories of the project at each stage of its development. This allows any developer at any time to restore the state of any version of the project or track changes in the code).
* Each commit contains information about all changes in files compared to the previous commit, as well as metadata such as author, date, and commit comment. This allows developers to understand when and for what reason changes were made.