What is a “version control system”?

Version control systems are a category of software tools that helps in recording changes made to files by keeping a track of modifications done in the code.

Benefits of the version control system:

- **Speeds Up Development**: Enables efficient teamwork.
- **Boosts Productivity**: Improves communication and support among team members.
- **Minimizes Errors**: Tracks every change to prevent mistakes and conflicts.
- **Remote Work**: Allows contributions from anywhere in the world.
- **Safe Merging**: Keeps separate copies for contributors until changes are verified.
- **Popular Tools**: Includes Git, Helix Core, and Microsoft TFS.

Here are the types of version control system:

1. Centralized Version Control Systems (CVCSs)

- Single central repository stores all versions of the code
- Clients connect to the central repository to access and update code
- Examples: Subversion (SVN), Perforce

2. Distributed Version Control Systems (DVCSs)

- Every developer has a local copy of the entire project history
- Changes are shared between developers through a common repository
- Examples: Git, Mercurial, Bazaar

3. Local Version Control Systems (LVCSs)

- Version control is done on a local machine, without a central repository
- Suitable for small projects or individual developers
- Examples: RCS (Revision Control System), SCCS (Source Code Control System)