Software Version Control

Introduction

- **Software Version Control** is a system or practice used in software development to manage and track changes to the source code or files over time.
- It allows multiple developers to collaborate on a project, keeping a record of every modification, and helps in maintaining the integrity and history of the codebase.

Key Features of Software Version Control

- Tracking Changes:
- Branching and Merging:
- Collaboration:
- Backup and Recovery:
- Code safety:

Types of version control

- Localized version control
- Centralized version control
- Distributed version control

Popular Version Control Systems:

Git:

- A distributed version control system that allows for flexible and efficient management of projects. Git is the most widely used VCS today.

Subversion (SVN):

- A centralized version control system that was popular before the rise of Git.

Importance of Version control

- **Collaboration:** Allows multiple people to work on the same codebase without overwriting each other's work.
- **Accountability**: Maintains a history of changes, making it easier to track who made changes and why.
- **Code Integrity**: Helps prevent code conflicts and ensures that the final product is consistent and reliable.
- **Reversion**: Enables easy rollback to previous versions if new changes cause issues.