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Git Tasks

1. Make a repository on GitHub with the name “InnovationPython\_yourname.”

Graphical user interface, text, application, email

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1. **Difference between Git and GitHub.**

Git is a tool through which a version control system lets you manage and keep track of your source code. Git is helpful for software developers because while experimenting new features in a project, there’s error in new feature you might want to revert to original code, Git allows you to see the original code. Git also allows people to work together on the same project without disturbing each other’s file.

GitHub is a cloud-based hosting service that lets you manage GIT repositories. It is an online repository which uses git technology for their process and achieve version controls along with other functionalities like bug tracking, project management

1. **Git Workflow**

Git workflow is a git workflow design that does branching model design around the project release. It provides framework for managing larger projects. The workflow specifies roles to branches and defines how they interact. It uses individual branches for preparing, maintaining and record releases. The steps git follows are:

1. Git clone
2. Git init
3. Git add <Filename>
4. Git commit -m “Message
5. Git push -u origin

Flow chart of git is shown below:

Timeline

Description automatically generated

1. **Types of version control system.**

There are two types of version control system:

1. **Centralized version control system:**

In centralized version control system, there is a server and a client. Centralized VCS client need to get local copy of source from server, do the changes and commit changes to central source on server. It keeps the history of changes on central server from which everyone requests the latest version of work and pushes the latest change. Centralized VCS allows more access control via folder permission or by allowing checkout of sub tree from repository tree.

1. **Distributed version control system:**

**I**n distributed VCS, everyone has a local copy of entire work history. It is not necessary to be online to change revisions or add changes to work. Instead of one single repository which is the server, here every single developer or client has their own server, they copy the entire history or version of code and all branches in their local server or machine. Here, every client or user can work locally and disconnected.

1. **Branching concept in Git**.

Branching means environment in git. They request a brand-new working directory, staging area, and project history. New commits are recorded in the history for the current branch which results in a fork in the history of the project. Git branch command lets you create, list, rename and delete branches. Git branches are integrated with git checkout and git merge commands.

1. **Forking Workflow in Git**

Forking is a git clone operation executed on a server copy of project repo. It is recommended to work in a common Git repository and use branching strategies to manage work. If you do not have access to write access for the repository you have to create a fork.