**Case Tools Laboratory**

**Lab file**

Unit 1

Version Control Tool

Aim: To study of a version control tool: Git 12,14,18/03/22

Introduction: GIT was created by Linus Torvald, who is the creator of Linux, in 2005. They are Open source projects used for the distributed version control system to develop several types of commercial and non-commercial projects as GIT is a distributed version, they could be used as a server for managing repositories. The main goal of it is they support non-linear developments with good speed and can handle large projects deliberately.

In earlier days, we keep track of our work to make a copy, modification the files, but after version control, we can manage files in a professional manner explicating folder concepts.

most interestingly it allows us to restore previous versions of project work. So, GIT helps in tracking codes by storing them in versions on its own local repository called GITHUB. GITHUB is a website where we can upload a copy of files stored in the repository. GIT uses a low-level language called C language.

Experiment 1:

Create folder in any drive on PC

Open git bash

Type Commands

-> $ cd documents (drive name)

-> $ cd GitSafiya (folder name)

-> $ Git init (To initialize a git repository)

Add 3 files called (file1,file2,file3) to it and add some data in the files and save

$ touch newfile.txt

To add some data in your file use

$ nano newfile.txt

Ask git to keep track of files one by one committing the files

Add a file to the staging environment

$ git add.

Create your first commit!

$ git commit -m "Your message about the commit“

Check the commit using the following command

$ git status

Create a new repository on GitHub

if you want to work with a team, you can use GitHub to collaboratively modify the project's code.

Push files on github from your local repository

Push a branch to GitHub

$ git remote add origin <REMOTE\_URL> # Sets the new remote

$ git remote -v # Verifies the new remote URL

Push the changes in your local repository to GitHub.

$ git push origin yourbranchname(master)

Date: 21/03/22

Create a pull request

To pull files from the another persons repository

$ git pull origin master

Clone a file available in GitHub

$ git clone remote\_repository\_URL

Try using:https://github.com/Gothamv/MuskCult

Create files add push into git hub

Pull files from github

Date : 28/03/22

Unit 2

Unit Testing

Aim: To study Unit testing tool: JUnit

Set up environment for unit testing

Install java development kit(JDK) on your machine

Visit https://junit.org/junit4/ Click on Download and install

junit.jar

hamcrest-core.jar

After downloading go to C drive create a folder called junit and paste two files that are download( junit.jar , hamcrest-core.jar )

Setting environment variables ,right click on PC click on properties

Click on advanced system settings

Click on environment variables

You have to see “JUNIT\_HOME “ is there on “ c:\ junit” path

To check CLASSPATH

Introduction : UNIT TESTING is a type of software testing where individual units or components of a software are tested.

• Unit Testing is done during the development (coding phase) of an application by the developers. • Unit Tests isolate a section of code and verify its correctness.

JUnit is an open source

Unit Testing Framework for JAVA.

• It is useful for Java Developers to write and run repeatable tests.

• Erich Gamma and Kent Beck initially developed it. It is an instance of xUnit architecture.

• As the name implies, it is used for Unit Testing of a small chunk of code.