EXPERIMENT NO.:10

Date of Performance:

Date of Submission:

Aim: Version control of the project

Software Used: GitHub

Theory:-

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

As we know that a software product is developed in collaboration by a group of developers they might be located at different locations and each one of them contributes in some specific kind of functionality/features. So in order to contribute to the product, they made modifications in the source code(either by adding or removing). A version control system is a kind of software that helps the developer team to efficiently communicate and manage(track) all the changes that have been made to the source code along with the information like who made and what change has been made. A separate branch is created for every contributor who made the changes and the changes aren't merged into the original source code unless all are analyzed as soon as the changes are green signaled they merged to the main source code. It not only keeps source code organized but also improves productivity by making the development process smooth.

Benefits of the version control system:

a) Enhances the project development speed by providing efficient collaboration,

b) Leverages the productivity, expedite product delivery, and skills of the employees through better communication and assistance,

c) Reduce possibilities of errors and conflicts meanwhile project development through traceability to every small change,

d) Employees or contributor of the project can contribute from anywhere irrespective of the different geographical locations through this **VCS,**

e) For each different contributor of the project a different working copy is maintained and not merged to the main file unless the working copy is validated. A most popular example is **Git, Helix core, Microsoft TFS,**

f) Helps in recovery in case of any disaster or contingent situation,

g) Informs us about Who, What, When, Why changes have been made.

Use of Version Control System:

- **A repository:** It can be thought of as a database of changes. It contains all the edits and historical versions (snapshots) of the project.
- **Copy of Work (sometimes called as checkout):** It is the personal copy of all the files in a project. You can edit to this copy, without affecting the work of others and you can finally commit your changes to a repository when you are done making your changes.\

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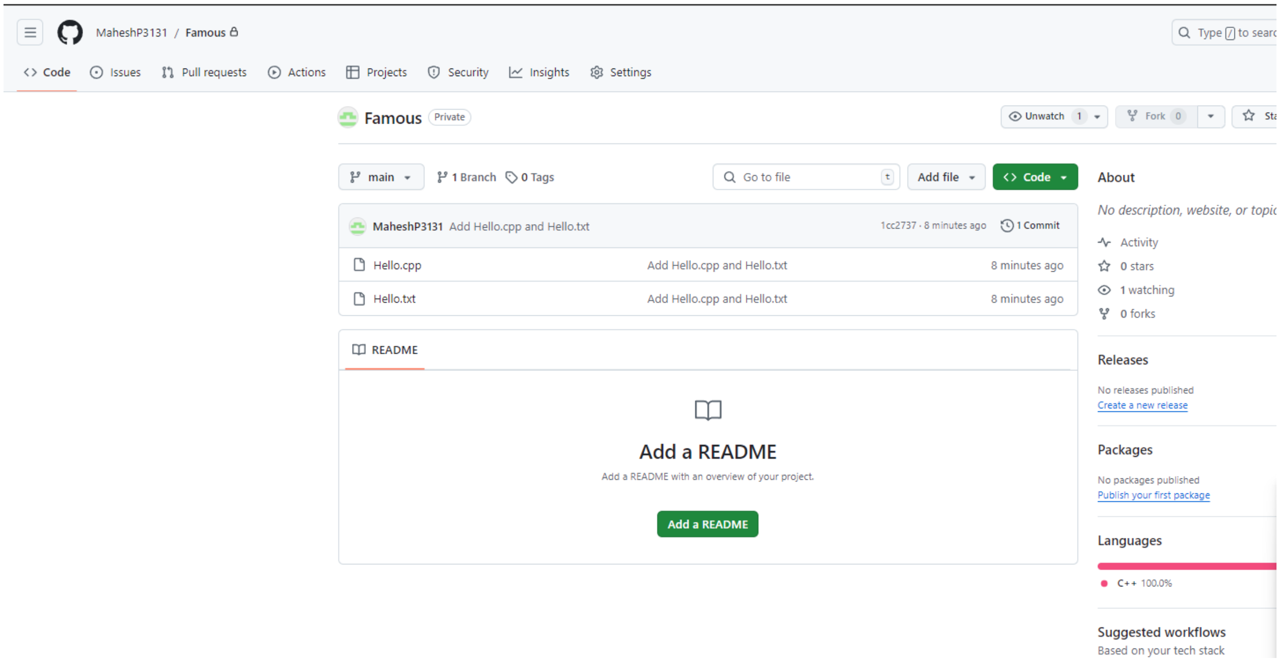
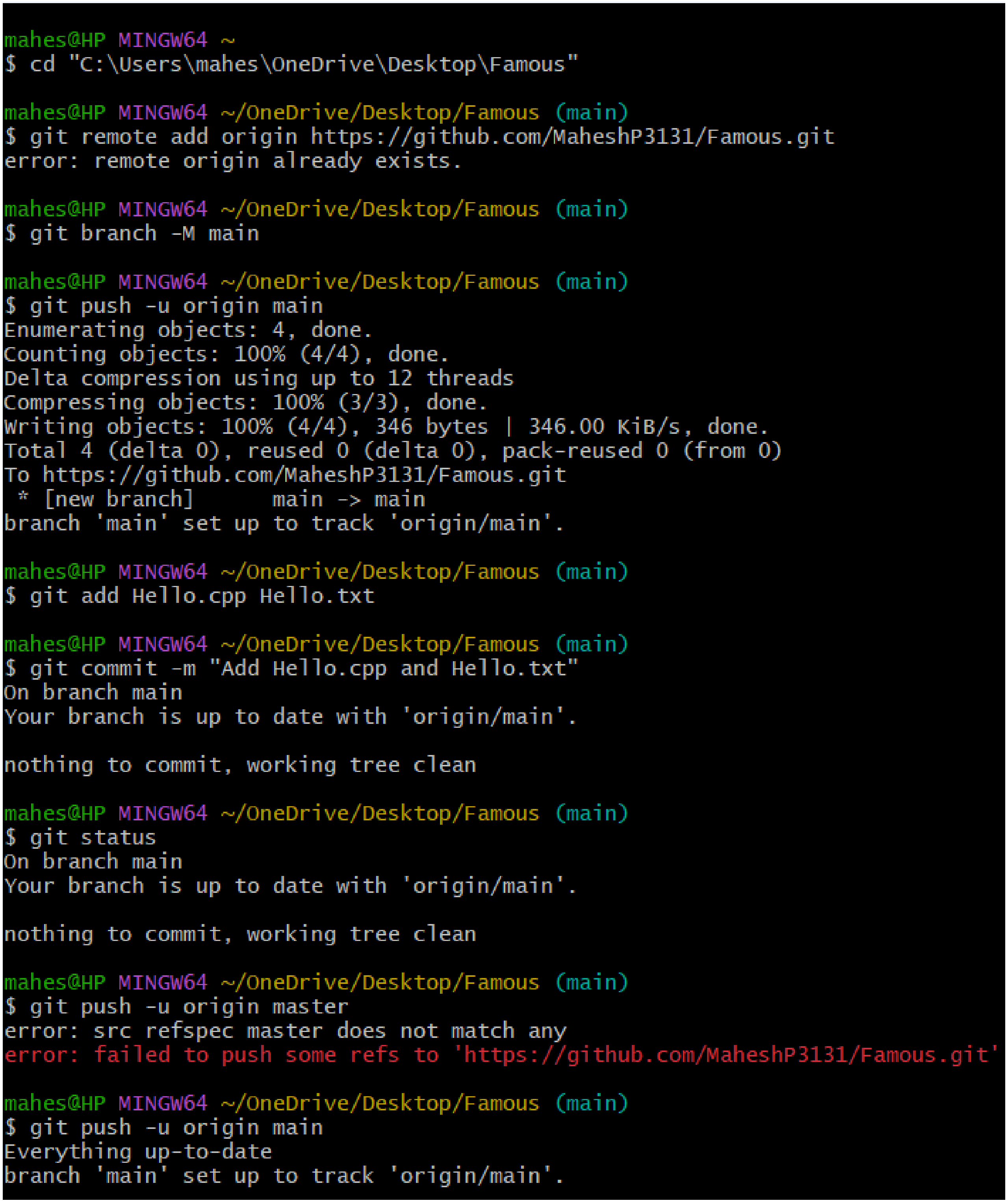


MaheshP3131 Add Hello.cpp and Hello.txt 1cc2737 · 8 minutes ago 1 Commit

Hello.cpp	Add Hello.cpp and Hello.txt	8 minutes ago
Hello.txt	Add Hello.cpp and Hello.txt	8 minutes ago



```
mahes@HP MINGW64 ~
$ cd "C:\Users\mahes\OneDrive\Desktop\Famous"

mahes@HP MINGW64 ~/OneDrive/Desktop/Famous (main)
$ git remote add origin https://github.com/MaheshP3131/Famous.git
error: remote origin already exists.

mahes@HP MINGW64 ~/OneDrive/Desktop/Famous (main)
$ git branch -M main

mahes@HP MINGW64 ~/OneDrive/Desktop/Famous (main)
$ git push -u origin main
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 12 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 346 bytes | 346.00 KiB/s, done.
Total 4 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/MaheshP3131/Famous.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.

mahes@HP MINGW64 ~/OneDrive/Desktop/Famous (main)
$ git add Hello.cpp Hello.txt

mahes@HP MINGW64 ~/OneDrive/Desktop/Famous (main)
$ git commit -m "Add Hello.cpp and Hello.txt"
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean

mahes@HP MINGW64 ~/OneDrive/Desktop/Famous (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean

mahes@HP MINGW64 ~/OneDrive/Desktop/Famous (main)
$ git push -u origin master
error: src refspec master does not match any
error: failed to push some refs to 'https://github.com/MaheshP3131/Famous.git'

mahes@HP MINGW64 ~/OneDrive/Desktop/Famous (main)
$ git push -u origin main
Everything up-to-date
branch 'main' set up to track 'origin/main'.
```

Sign and Remark:

R1	R2	R3	Total Marks	Signature
(5)	(5)	(5)	(15)	