**Week 1: Introduction to tools e.g. Git and Github**

Learning materials:

1. Git : <https://git-scm.com/videos>
2. Github : <https://lab.github.com/githubtraining/introduction-to-github>
3. What is version control?
4. Basics of Git.
   1. Single person development
      1. Adding new features
      2. Committing it to the repository for future review.
   2. Multiple persons development
5. Get going with Git.
   1. Install git <https://git-scm.com/download>
   2. Configure username and email (not a credential to be used in central repo rather credit by whom the changes occur in local repo )
      1. **git config -- global user.name “faisalhussain-cse12”**
      2. **git config -- global user.email “faisalhussain@iut-dhaka.edu”**
   3. Initializing local git repo
      1. **git init** “<Full Student ID> CSE 4302”
      2. cd “<Full Student ID> CSE 4302”
      3. Create readme.txt file
      4. For tracking add the required file in staging area by following command

***git add readme.txt***

* + 1. **git commit -m”This is new.”**
    2. Create .gitignore file [you may read documentation for details <https://git-scm.com/docs/gitignore> ] and add following two lines

***\*.o***

***\*.exe***

* + 1. git commit -m”added .gitignore file”
    2. Open a repository in github.
    3. Copy the remote url and use the following command to add remote url

***git remote add origin <url>***

[You may read documentation to understand adding remote <https://docs.github.com/en/github/getting-started-with-github/managing-remote-repositories>]

What is github?

Ans: GitHub is a collaboration platform. GitHub is also a powerful version control tool.

GitHub uses Git, the most popular open source version control software, to track every contribution and contributor to your project--so you know exactly where every line of code came from.

**Useful Commands:**

git status

git log

git add .

git commit -m”Hello”

git push

For any lab task:

* Create a folder in the parent folder (where **.git** folder is present) with the name of lab example : **Lab 1**
* For each of the lab tasks you need to have a separate cpp file. The name of the file should be **<Last 3 digit of your Student ID> task <task no>** Example 101 task 1
* Commit after each task is recommended.
* Push the code to remote repo
* Upload task in google classroom assignment section also for safety.
* Be ready for the viva session.