Programming Fundamental

Programming Day - Week 01

Introduction

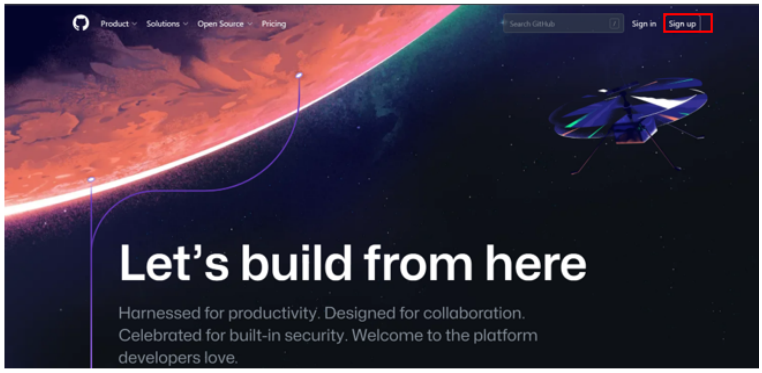
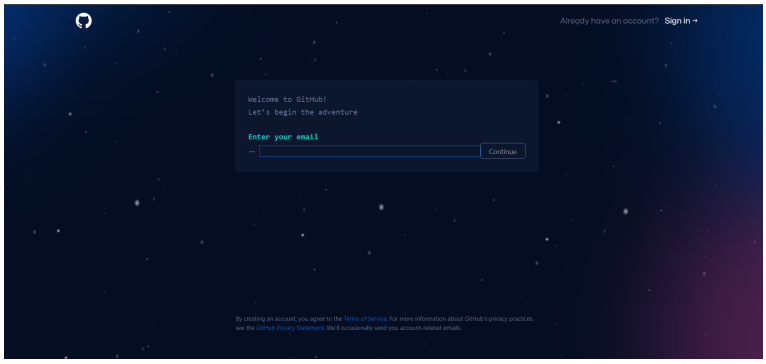
Welcome to your first programming day. In this lab manual, we shall work together to learn and implement new programming concepts including setting up GitHub Account and using GitBash to remotely store your files. In addition, you will attempt to implement the complex programming task through hands-on experience.

Skills to be learned:

- Compiling and Executing a Program using MinGW
- Adding, Committing, and Pushing files remotely to the GitHub repositories

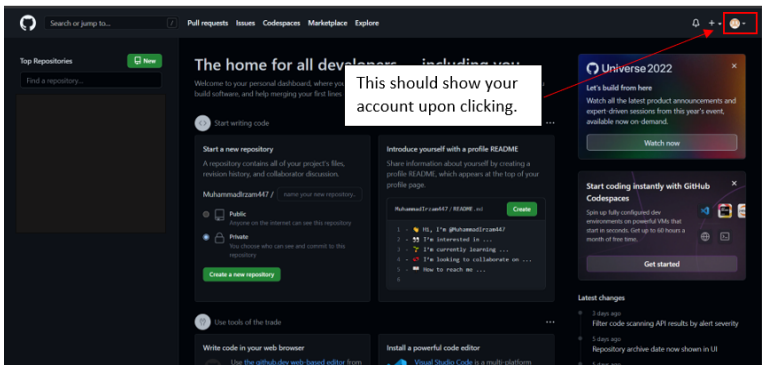
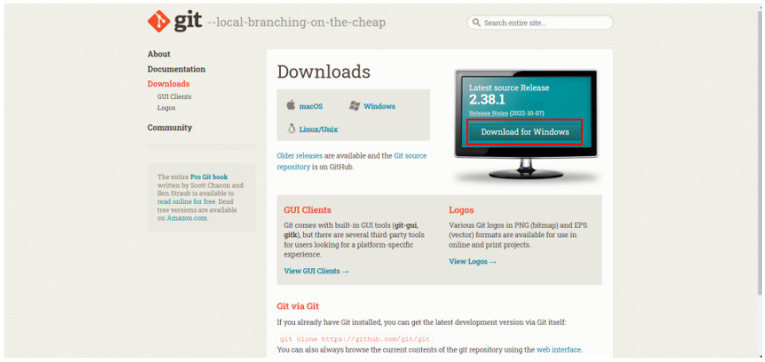
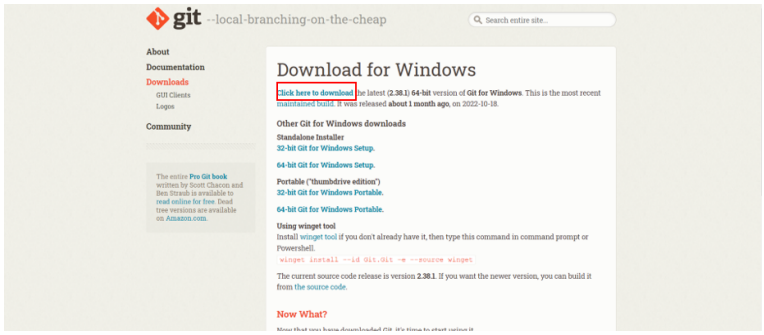
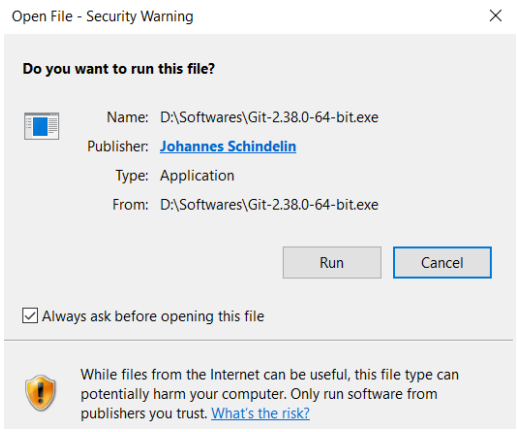
Let's do some coding.

First Thing First, Let's create a Github Account.

Go to https://github.com/ and Click on **Sign Up** Button	
You will need an email account for creating your GitHub account. Enter the email address of your account. Choose a password and **complete the profile**. **Note:** In case you already have a GitHub Account, just sign in using that account.	

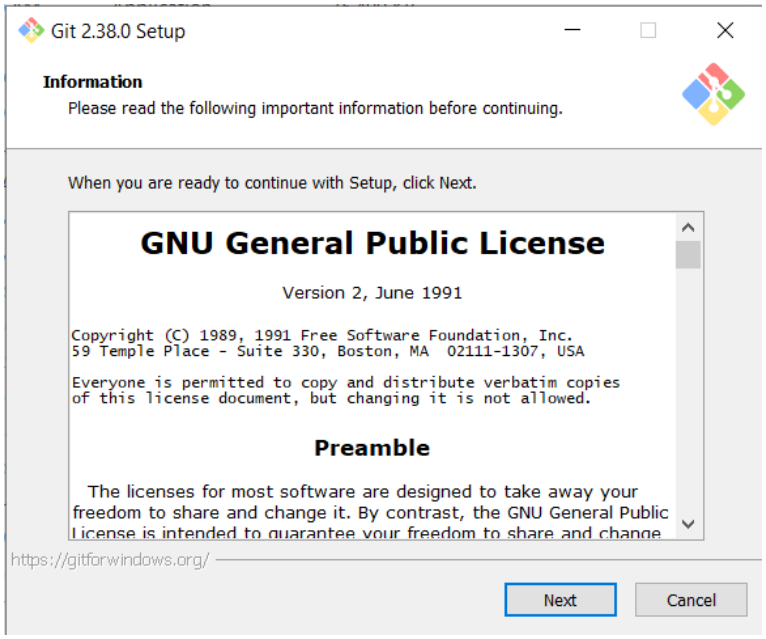
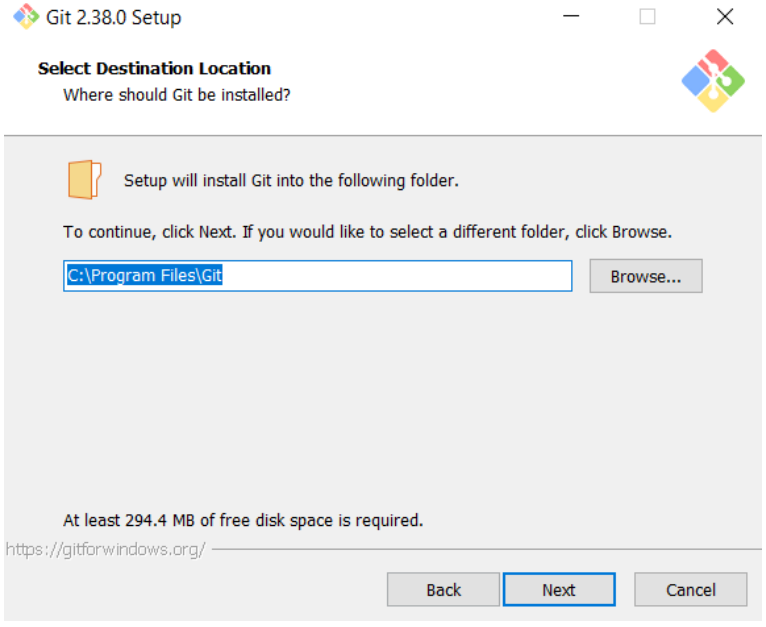
Programming Fundamental

Programming Day - Week 01

Welcome to your GitHub Account.	
Now Let's Install GitBash. Visit https://git-scm.com/downloads/ To download GitBash which will be used for uploading files to your git account.	
Install the Latest 64bit Setup for Windows.	
Sit tight, it may take a minute to complete the download. Upon successful completion, Double Click on the downloaded file and choose **Run** from the menu.	

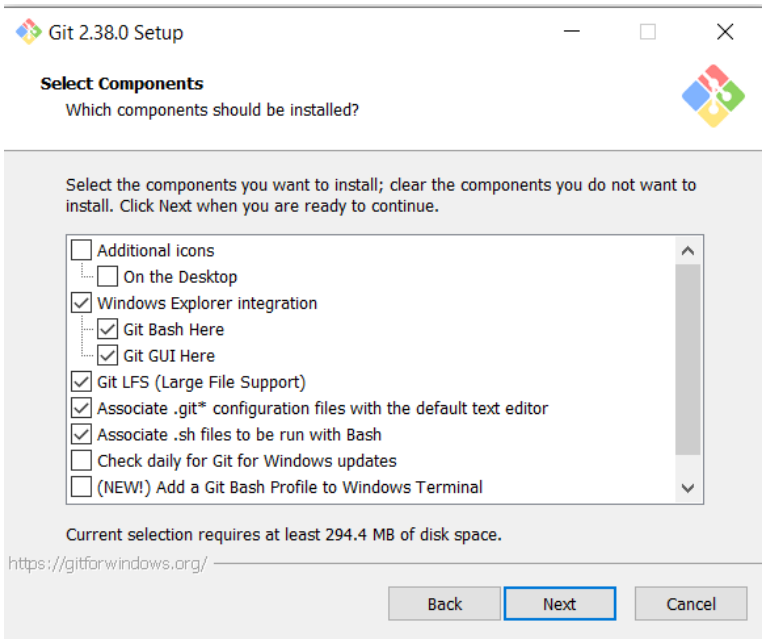
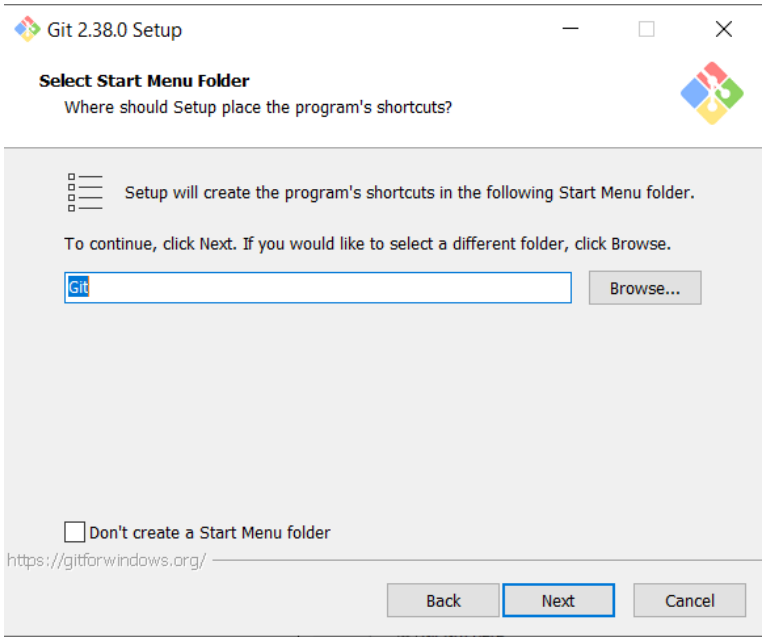
Programming Fundamental

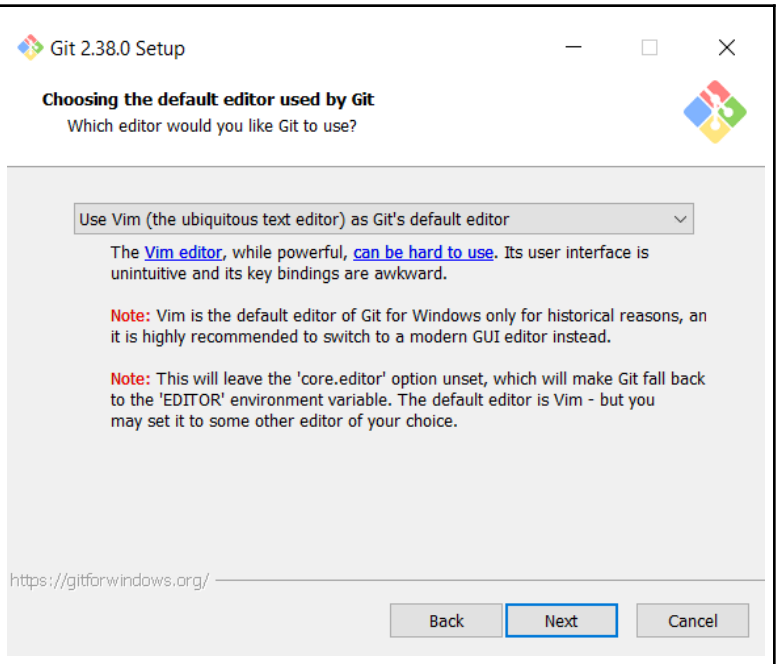
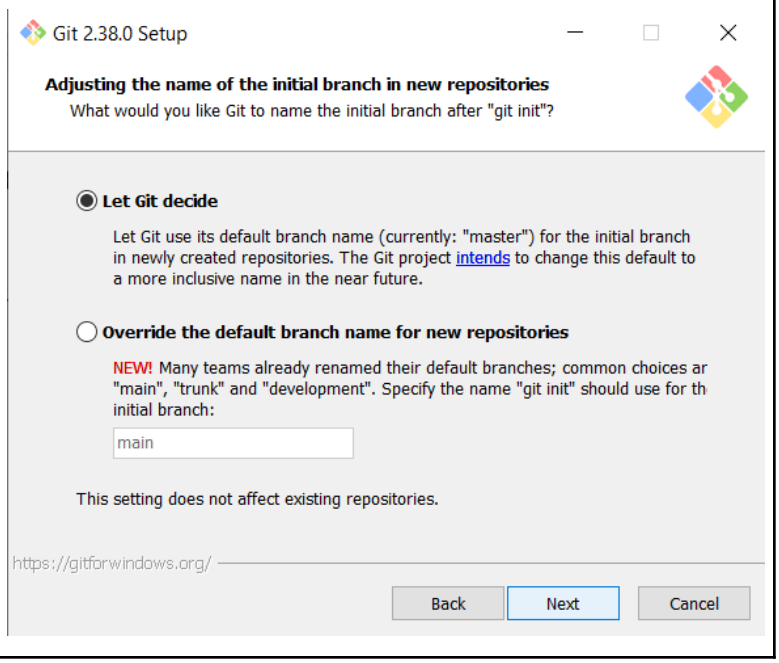
Programming Day - Week 01

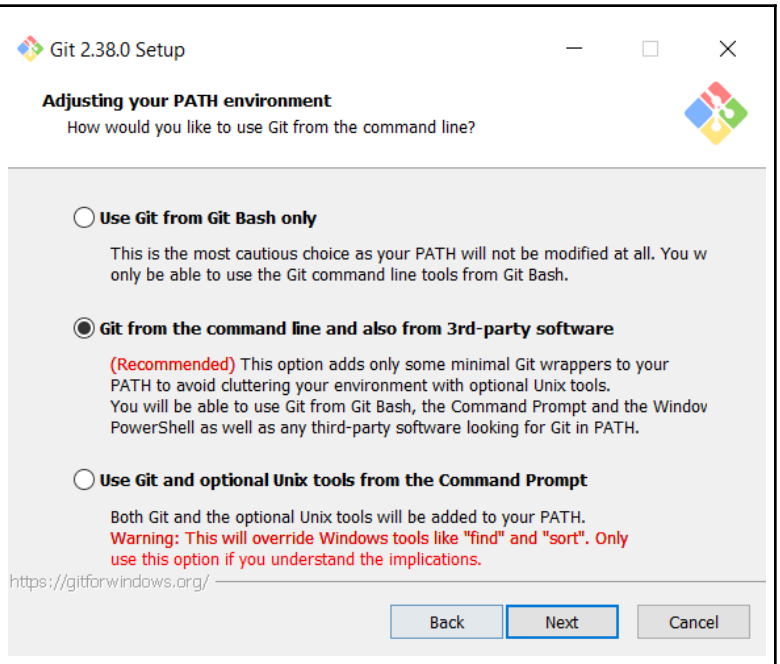
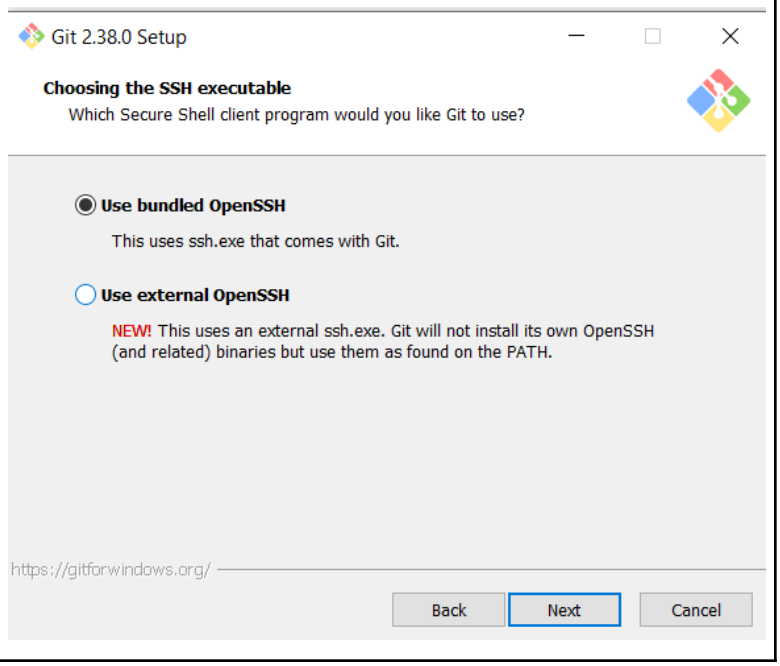
Choose **Next**	
Choose **Next**	

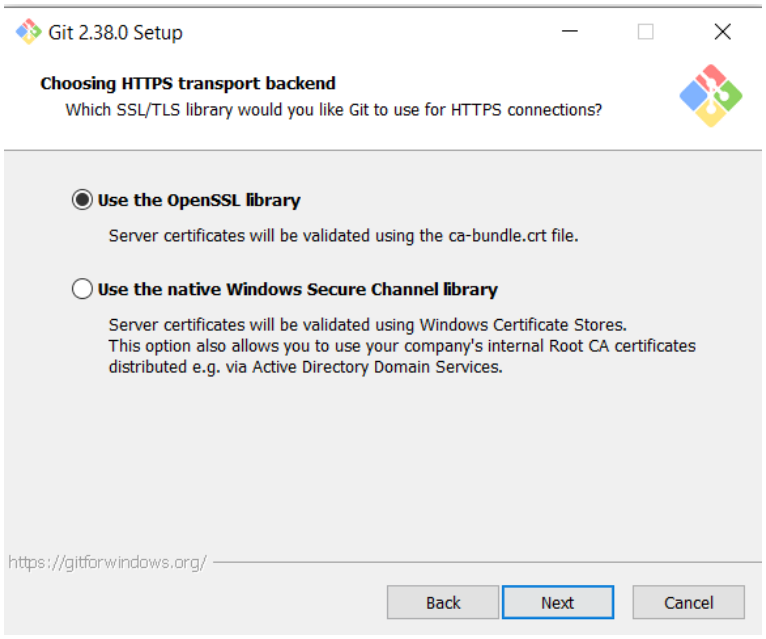
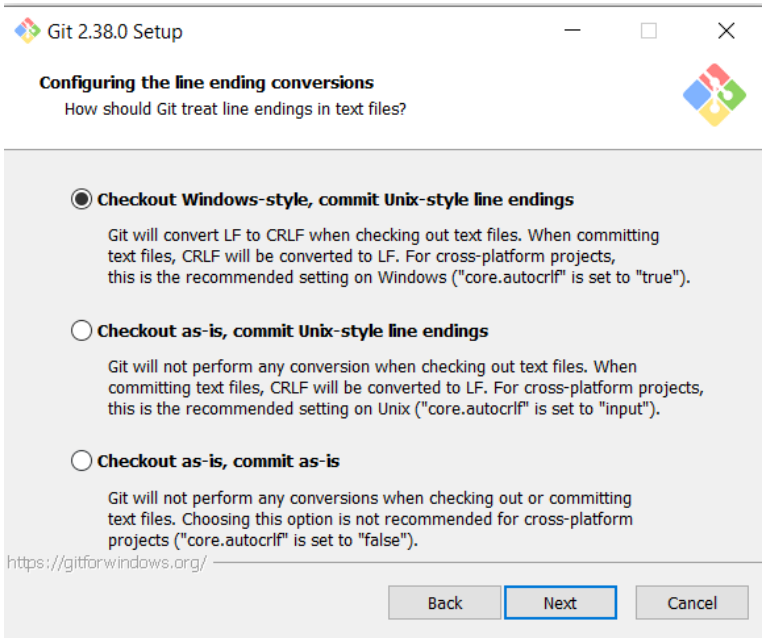
Programming Fundamental

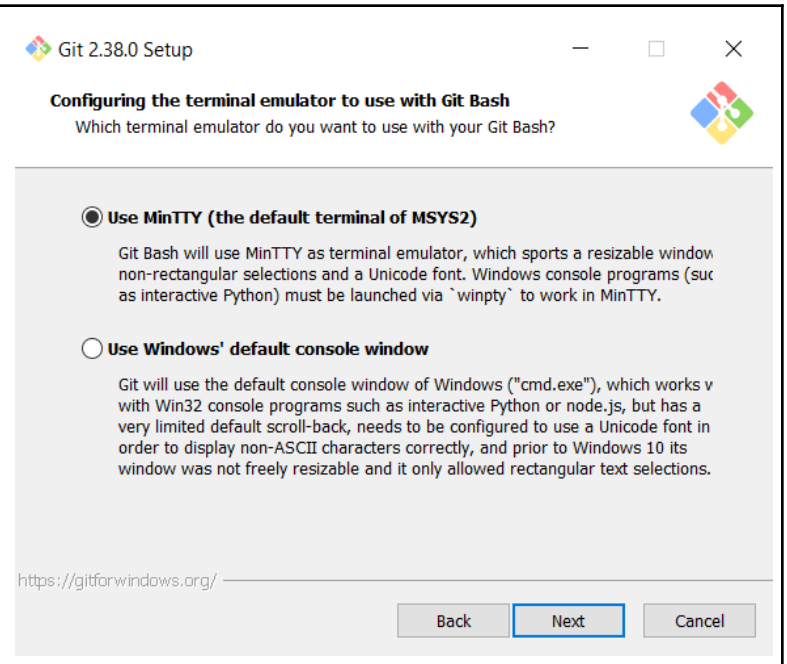
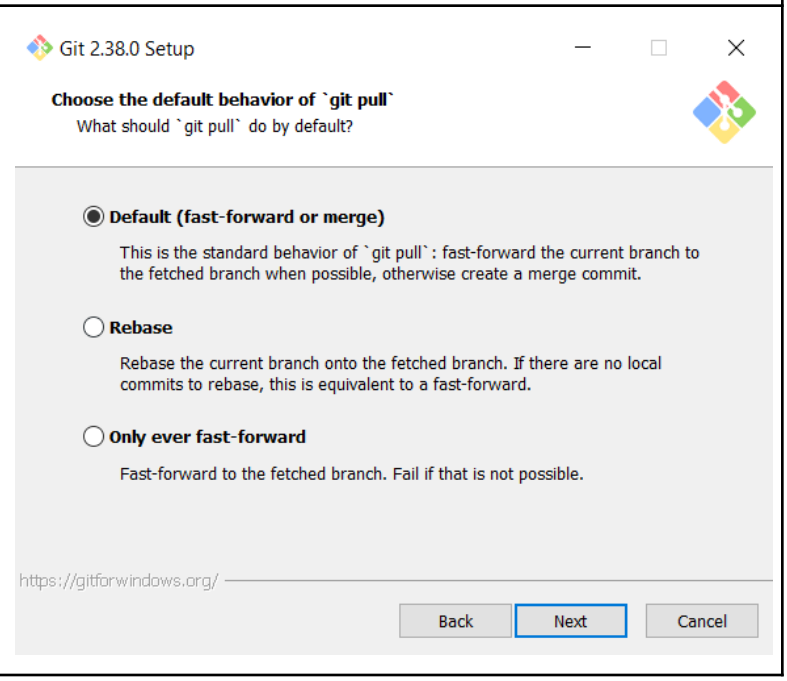
Programming Day - Week 01

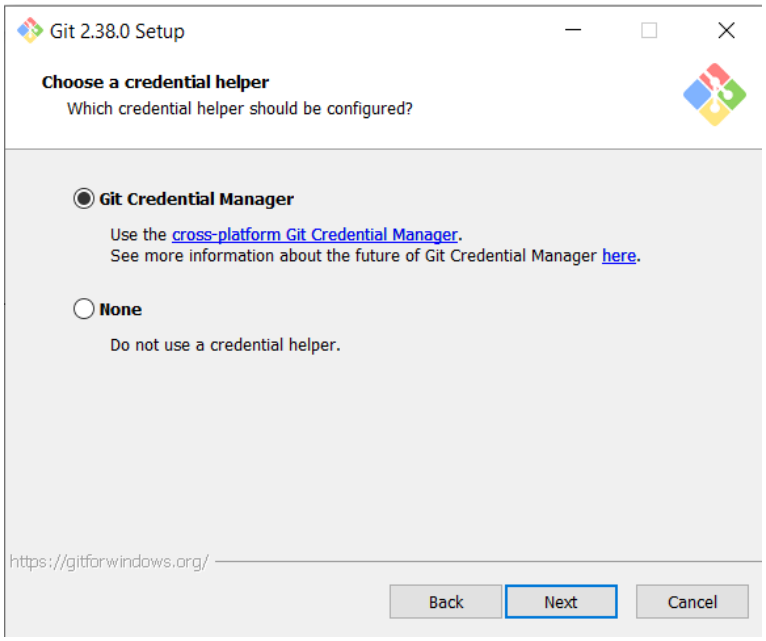
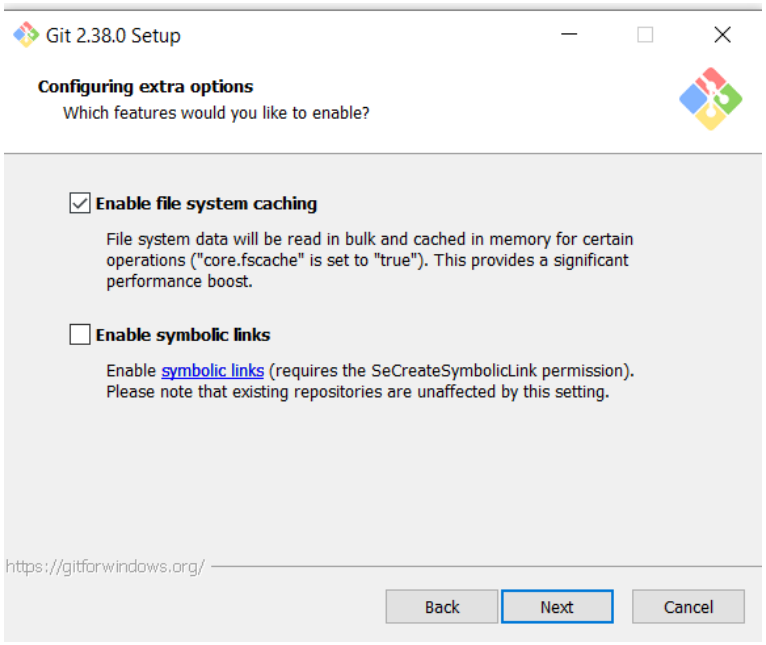
Choose **Next**	
Choose **Next**	

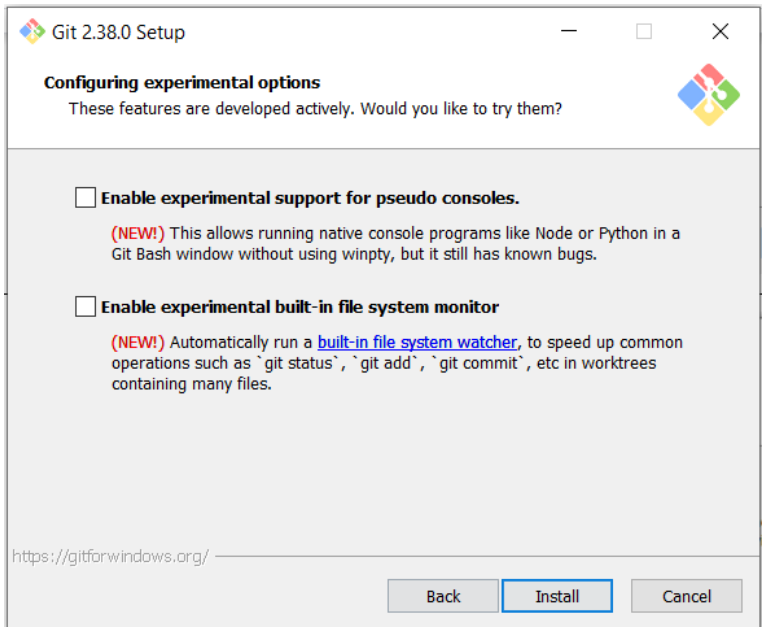
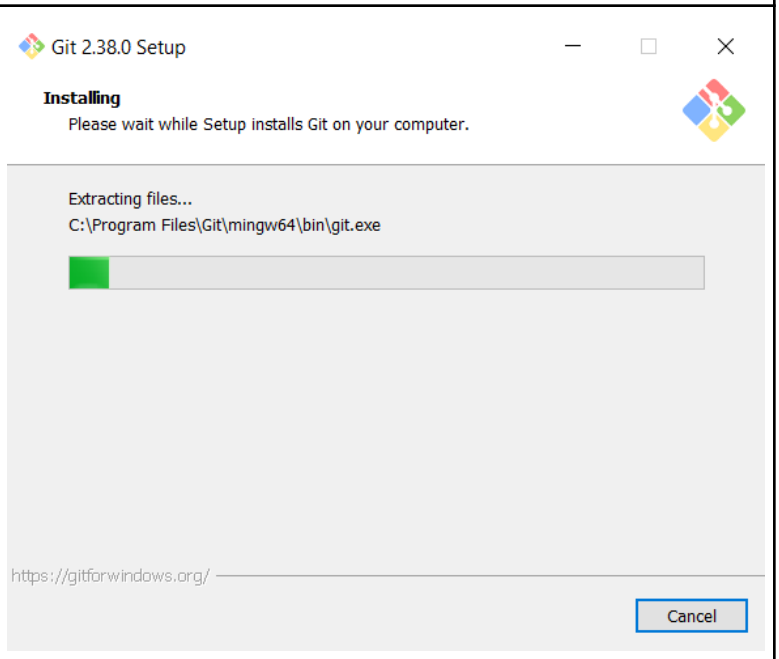
Choose **Next**	
Select **Let Git decide** and Choose **Next**	

Choose **Next**	
Choose **Next**	

Choose **Next**	
Choose **Next**	

Choose **Next**	
Choose **Next**	

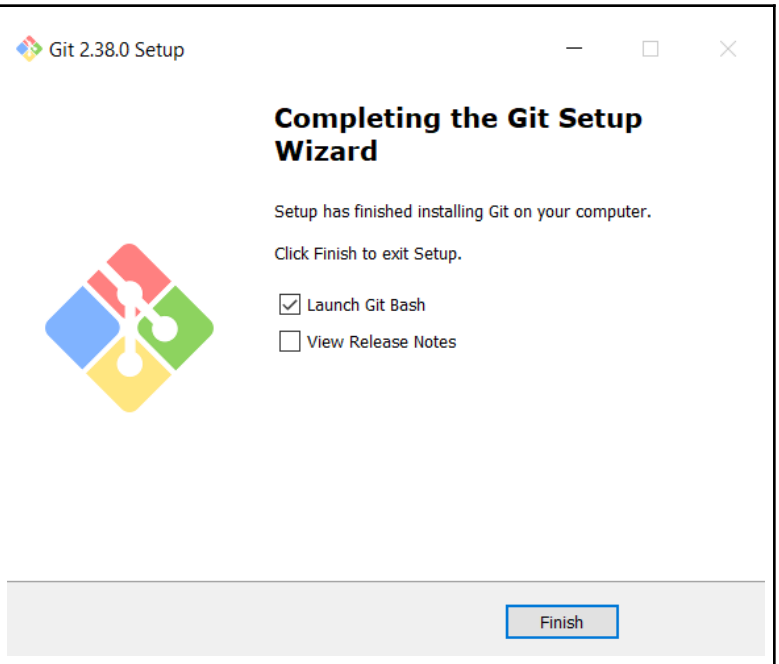
Choose **Next**	
Choose **Next**	

Choose **Next**	
Please Wait for the setup to install.	

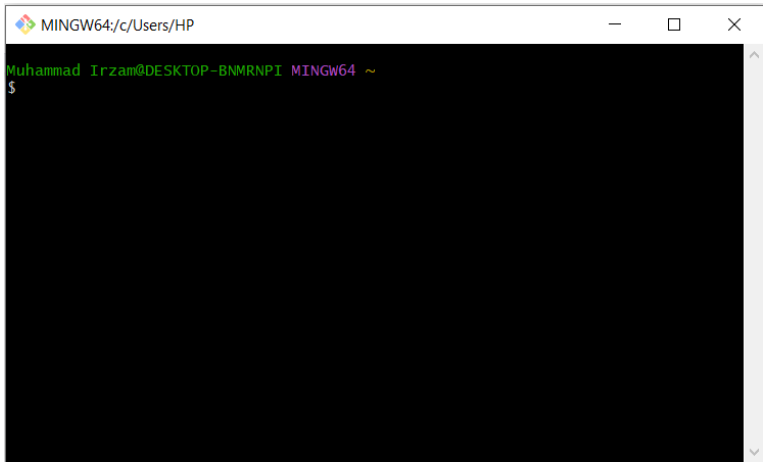
Programming Fundamental

Programming Day - Week 01

Choose **Finish**



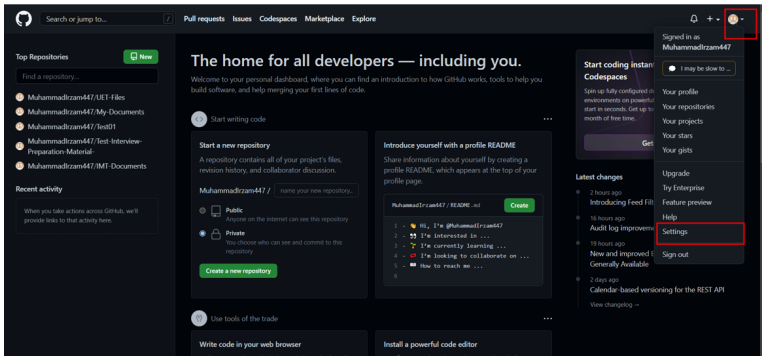
GitBash cmd should appear on your screen upon successful completion.



Great work. You have successfully installed GitBash.

Now, Let's create a personal access token to remotely update your GitHub account.
Go to your GitHub account on (www.github.com/)

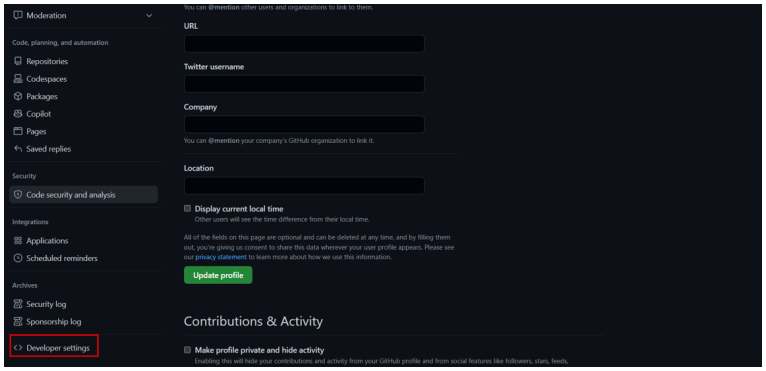
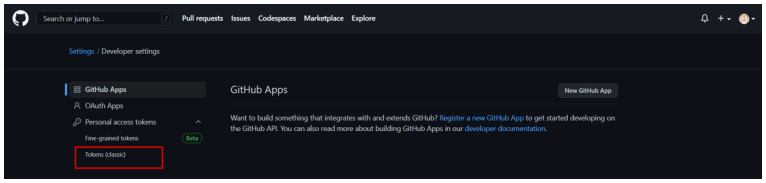
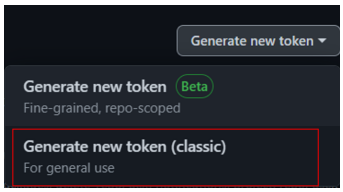
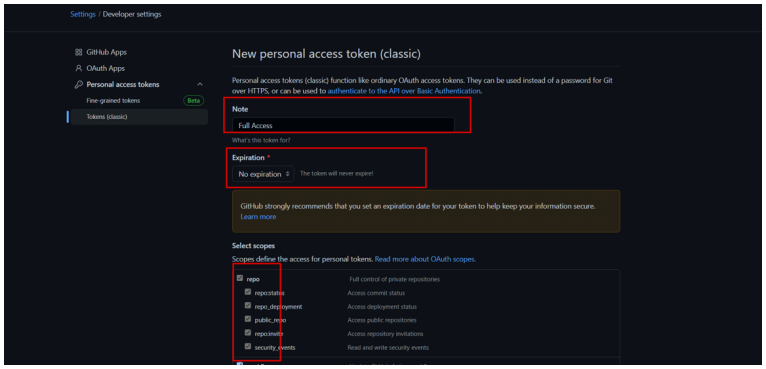
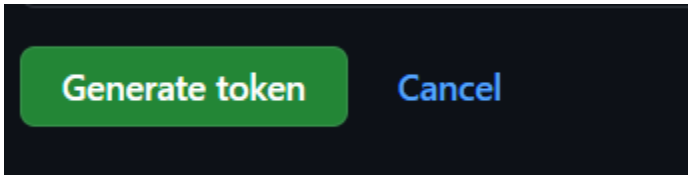
Click on your **account button** and choose **settings**.



Muhammad Irzam & Maida Shahid, Department of Computer Science, UET Lahore

Programming Fundamental

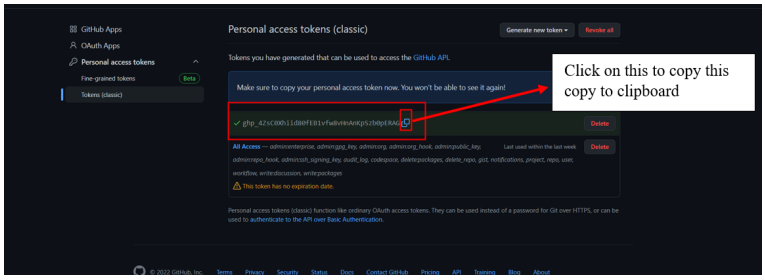
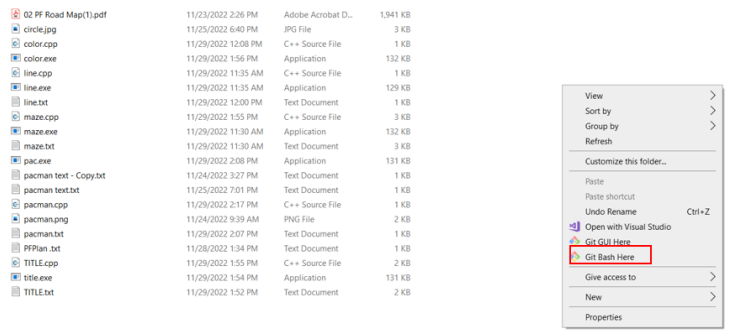
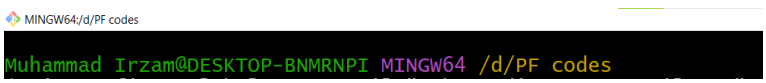
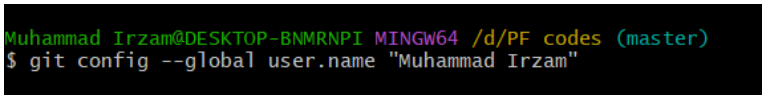
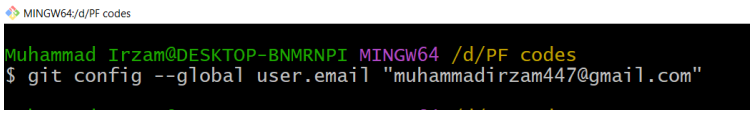
Programming Day - Week 01

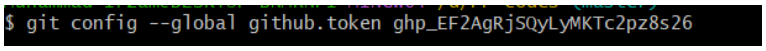
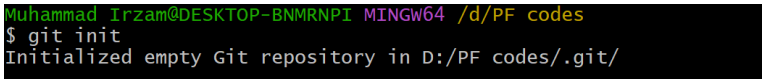
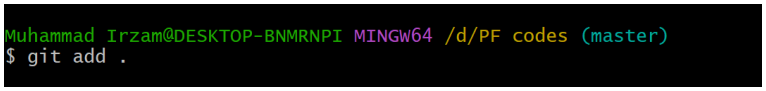
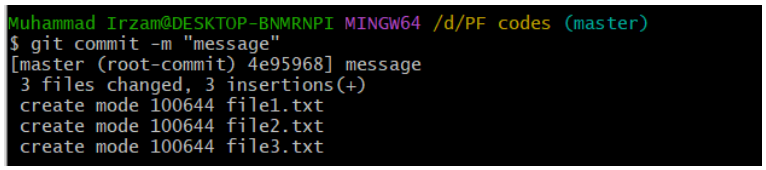
Scroll down and choose **Developer Settings**	
Click on **Personal Access Token** and choose **Classic**	
Select **Generate New Token**	 
Now, 1. Insert a **note** of your desire. 2. Set **expiration** to **No Expiration** 3. check all the checkboxes	
Once done with all the above steps, go ahead and click on **Generate Token.**	

Muhammad Irzam & Maida Shahid, Department of Computer Science, UET Lahore

Programming Fundamental

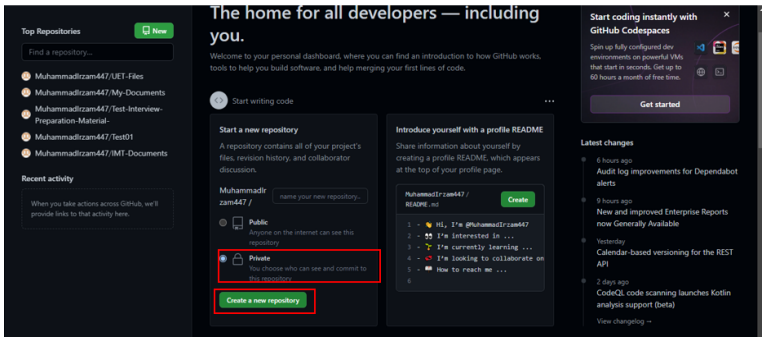
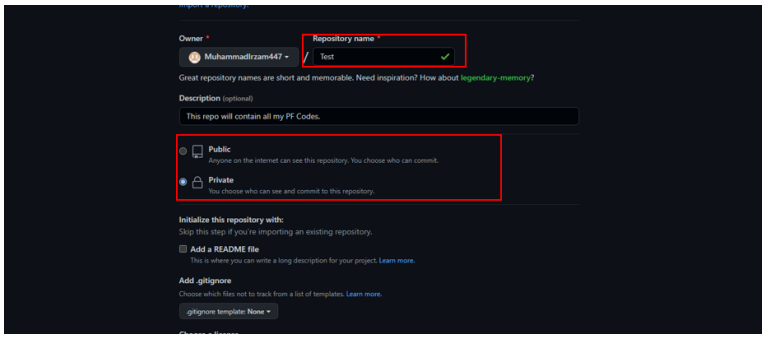
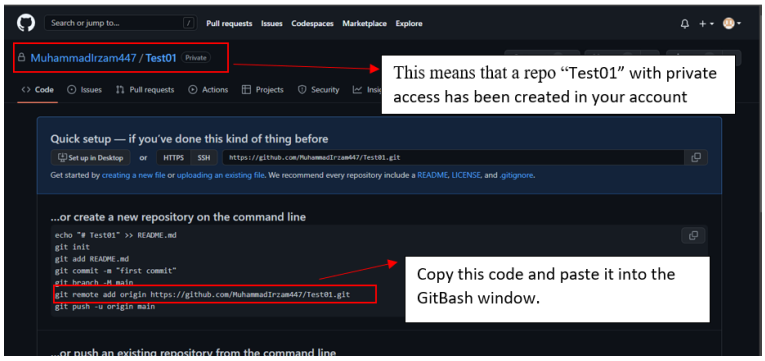
Programming Day - Week 01

Upon successful creation of a personal access token, the following screen should appear. **Note:** **Copy the token using the highlighted button and store it in a notepad file and save it for later use.**	
Now, Let's get back and Configure the GitBash so it would be connected to your GitHub Account.	
Navigate to the folder where you have stored your codes and Right Click in the window and choose **GitBash here**.	
It will open the GitBash cmd in that directory	
Write the following command in the cmd. git config --global user.name "**yourPCName**" Replace the username **with your PC username**. (you can check it by pressing **Windows Key + L**) Attached is a working example:	
Write the following command in the cmd. git config --global user.email "**yourEmailAccount**" Replace the email account with **your own email account** that **you are using for GitHub**. Here is a working example:	
Write the following command in the cmd. git config --global github.user "myusername" Replace the username with your own **GitHub**	

username. Here is a working example:	
git config --global github.token “mytoken” **Note: It is the personal access token that you copied and stored in a notepad file earlier.**	
Note: These commands are a one-time task only and all the remaining steps are repeated for each new directory(folder) that you want to upload to your GitHub account.	
git init Execute this command, to start your session. **Note: The good thing is you need to execute this command only once to start your session in a specific directory.**	
git add . This command is used to add all the files that are in your current working repository.	
git commit -m “message” This command is used to make a commit (time stamp record of your file and changes in that) in your Git repository. **NOTE:** Now, do not close this window and go to the web browser.	

Programming Fundamental

Programming Day - Week 01

Now go to your GitHub Account(www.github.com/) and create a Repository. A **Public Repository** cab is accessed by anyone on the internet. A **Private Repository** can only be accessed by you. Look at the attached screen to create a repo.	
Give it a Name and Provide a description. For now, choose **Private** and click on **Create Repository**.	
On Successful creation, the attached screen should appear.	
Now, **switch back to GitBash** and right click in the GitBash Window and Click on the **Paste** option and Hit **Enter**. The command should look like this: **git remote add origin https://**	

Programming Fundamental

Programming Day - Week 01

Now, upload the files to the remote repo using the following command.

git push -u origin master

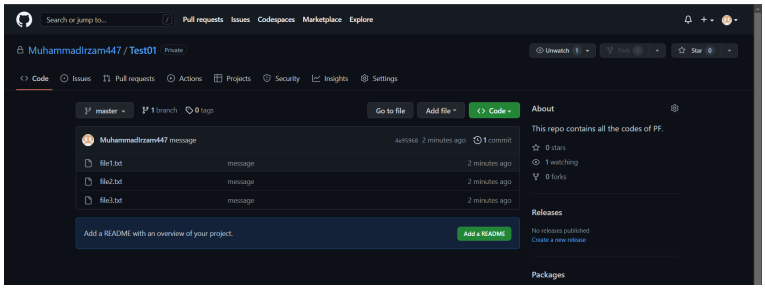
This command is used to upload all the committed files to your remote repository.

```
Muhammad Irzam@DESKTOP-BNMRNPI MINGW64 /d/PF codes (master)
$ git push -u origin master
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (5/5), 315 bytes | 157.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/MuhammadIrzam447/Test01.git
 * [new branch]      master -> master
branch 'master' set up to track 'origin/master'.
```

The first time you interact with GitBash, you may be asked to insert the token to verify it's you.
Note: It is the personal access token that you copied and stored in a notepad file earlier.

Congratulations, you have created your GitHub Account and used GitBash to Upload the files to the remote repository.

You can check that by visiting your GitHub account and choosing your created repo.



Congratulations, you have successfully created your GitHub account and uploaded all the files in the PF Codes folder. Great Work Guys! You have just added another skill to your skill set.

Conclusion

Command	Description
git config --global user.email “email”	Its a **one time use only** command, that is used to connect the GitBash with your GitHub Account
git config --global user.name "name"	This is a **one time use only** command that is used to connect the user remotely with their GitHub Account.
git config --global github.user “myusername”	This is a one time use only command that is used to verify your **GitHub account user name**.
git config --global github.token “mytoken”	This is a **one time use only** command that is used to give access to the GitBash so it can access your account.
git init	This is used to iniliazte the session. It is used **every time you want to create a new repo** on the GitHub account.

Programming Fundamental

Programming Day - Week 01

git add .	This command is used to **add all the file**s in the current working directory to the list of files that are to be uploaded on the GitHub account. There are various other versions on this command that you can find out on your own.
git commit -m "m"	This command **makes the commit along with the message** that you want to associate with that commit.
git remote add origin https://…	This command associates all the **committed files** to the defied **origin repo**.
git push -u origin master	This command is used to **upload all the committed files** to the defined origin repo.
Ctrl + L	This is used to **clear the screen** in GitBash
git ls-files	This lists all the files in the current local directory.
git clone https://…	This command is used to **download the remote repo files** to your personal computer.

Task 01(OP): Upload all your NotePad files to a public repository on your GitHub account.

Good Luck and Best Wishes !!

Happy Coding ahead :)