GITHUB AND GIT OPREATIONS

1. **To create a github local repo:**

```
WELCOME@Sujjanth MINGW64 ~
$ mkdir cognizance

WELCOME@Sujjanth MINGW64 ~
$ ls
'3D Objects'/           MicrosoftEdgeBackups/                                                                    Searches/
 AppData/               Music/                                                                                   SendTo@
'Application Data'@     'My Documents'@                                                                          'Start Menu'@
 Contacts/              NTUSER.DAT                                                                               Templates@
 Cookies@               NTUSER.DAT{53b39e88-18c4-11ea-a811-000d3aa4692b}.TM.blf                                  Videos/
 Desktop/               NTUSER.DAT{53b39e88-18c4-11ea-a811-000d3aa4692b}.TMContainer00000000000000000001.regtrans-ms  'VirtualBox VMs'/
 Documents/             NTUSER.DAT{53b39e88-18c4-11ea-a811-000d3aa4692b}.TMContainer00000000000000000002.regtrans-ms  bluej/
 Downloads/             NetHood@                                                                                 cognizance/
 Favorites/             OneDrive/                                                                                ntuser.dat.LOG1
 IntelGraphicsProfiles/ PrintHood@                                                                               ntuser.dat.LOG2
 Links/                 Recent@                                                                                  ntuser.ini
'Local Settings'@       'Saved Games'/                                                                           program1/

WELCOME@Sujjanth MINGW64 ~
$ cd cognizance

WELCOME@Sujjanth MINGW64 ~/cognizance
$ git config --global user.name sujjanth

WELCOME@Sujjanth MINGW64 ~/cognizance
$ git config --global user.email sujjanthbalaji@gmail.com

WELCOME@Sujjanth MINGW64 ~/cognizance
$ git init
Initialized empty Git repository in C:/Users/WELCOME/cognizance/.git/

WELCOME@Sujjanth MINGW64 ~/cognizance (master)
$ |
```

2. **Git add:**
   It puts our file to stage.
   For creating a file use touch<filename> cmd

```
WELCOME@Sujjanth MINGW64 ~/task1 (master)
$ touch file6.txt

WELCOME@Sujjanth MINGW64 ~/task1 (master)
$ git add .
```

3. **Git commit:**
   Commit changes staged files to local branch

```
WELCOME@Sujjanth MINGW64 ~/task1 (master)
$ git commit -a
hint: Waiting for your editor to close the file... unix2dos: converting file C:/Users/WELCOME/task1/.git/COMMIT_EDITMSG to DOS format...
dos2unix: converting file C:/Users/WELCOME/task1/.git/COMMIT_EDITMSG to Unix format...
[master (root-commit) 3ae5727] this is a text file
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 file6.txt

WELCOME@Sujjanth MINGW64 ~/task1 (master)
$ git log
commit 3ae5727511aea120478197523c2e6184a6d32866 (HEAD -> master)
Author: sujjanth <sujjanthbalaji@gmail.com>
Date:   Tue Feb 15 16:15:40 2022 +0530

    this is a text file
```

   Git log uses to see the history of the repository

4. **Git remote:**
   Git remote cmd is responsible for syncing changes.

```
WELCOME@Sujjanth MINGW64 ~/task1 (main)
$ git remote add origin https://github.com/sujjanth/cognizance.git
```

5. Git branch: it is like a snapshot for your changes. Instead of copying from 1 dir to other.

```
WELCOME@Sujjanth MINGW64 ~/task1 (master)
$ git branch -M main
```

6. Git push:
Upload all changes from local repositories to their respective remote repositorie.

```
WELCOME@Sujjanth MINGW64 ~/task1 (main)
$ git push -u origin main
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (6/6), 469 bytes | 7.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/sujjanth/cognizance.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.
```
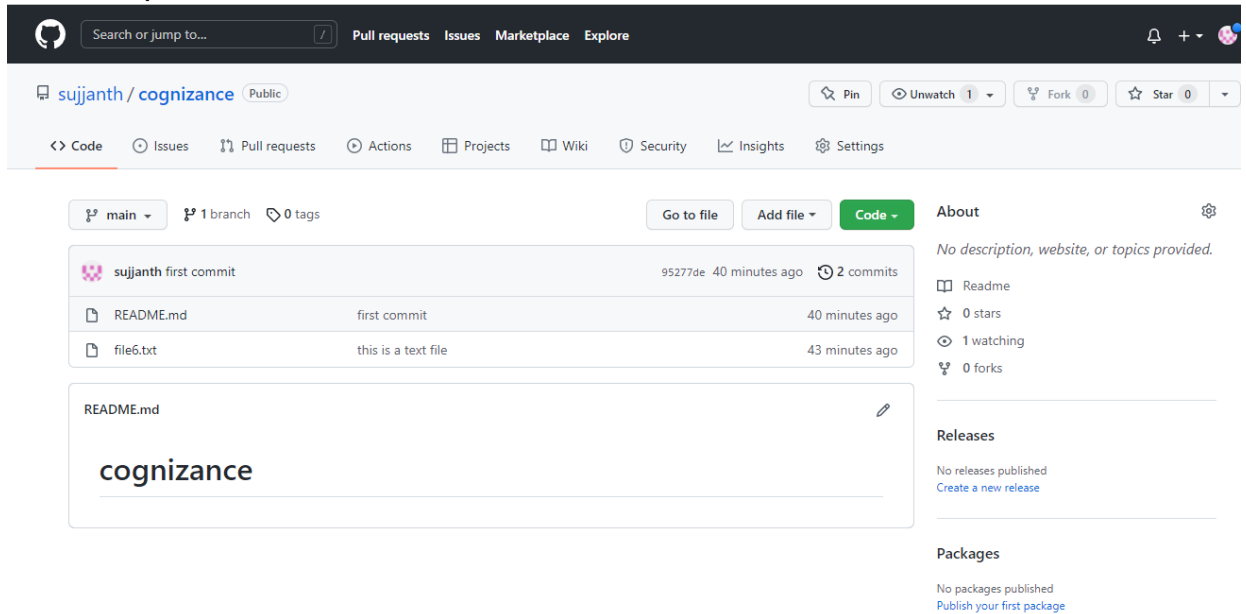
The above 4,5,6 cmds combined are used to change all the files to remote repositories Local repository:

```
WELCOME@Sujjanth MINGW64 ~/task1 (master)
$ git branch -M main

WELCOME@Sujjanth MINGW64 ~/task1 (main)
$ git remote add origin https://github.com/sujjanth/cognizance.git

WELCOME@Sujjanth MINGW64 ~/task1 (main)
$ git push -u origin main
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (6/6), 469 bytes | 7.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/sujjanth/cognizance.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.
```

Remote reposit

Git clone:
It helps to bring or copy an existing repository to a new one.

```
WELCOME@Sujjanth MINGW64 ~/task1 (main)
$ git clone https://github.com/sujjanth/cognizance.git
Cloning into 'cognizance'...
remote: Enumerating objects: 6, done.
remote: Counting objects: 100% (6/6), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 6 (delta 0), reused 6 (delta 0), pack-reused 0
Receiving objects: 100% (6/6), done.
```

7. Git checkout:
   This cmd helps you to replace all files with remote repo from a branch.

```
WELCOME@Sujjanth MINGW64 ~/task1 (main)
$ git checkout feature1
Switched to branch 'feature1'
```

8. Git checkout –b:
   It creates a new branch from currents branch's tip.

```
WELCOME@Sujjanth MINGW64 ~/task1 (main)
$ git checkout -b feature2
Switched to a new branch 'feature2'

WELCOME@Sujjanth MINGW64 ~/task1 (feature2)
$
```

9. Git fetch:
   Downloads changes from remote repo to local repo.

```
WELCOME@Sujjanth MINGW64 ~/task1 (feature2)
$ git fetch
```

10. Git merge:
    Merge files from given branch to current one.

```
WELCOME@Sujjanth MINGW64 ~/task1 (feature1)
$ git checkout main
warning: unable to rmdir 'cognizance': Directory not empty
Switched to branch 'main'
Your branch is up to date with 'origin/main'.

WELCOME@Sujjanth MINGW64 ~/task1 (main)
$ git merge feature1
Updating 95277de..2265d84
Fast-forward
 cognizance | 1 +
 test1.txt  | 0
 2 files changed, 1 insertion(+)
 create mode 160000 cognizance
 create mode 100644 test1.txt
```

11. Git pull:
    Fetches changes from remote repo to local repo and merges it.

```
WELCOME@Sujjanth MINGW64 ~/task1 (feature2)
$ git checkout main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

WELCOME@Sujjanth MINGW64 ~/task1 (main)
$ git pull
Already up to date.
```

12. Git reset:
    Makes the current branch point to some branch.

```
WELCOME@Sujjanth MINGW64 ~/task1 (main)
$ git log --oneline
2265d84 (HEAD -> main, feature2, feature1) new text file
95277de (origin/main) first commit
3ae5727 this is a text file

WELCOME@Sujjanth MINGW64 ~/task1 (main)
$ git reset 95277de --hard
warning: unable to rmdir 'cognizance': Directory not empty
HEAD is now at 95277de first commit
```

13. Git rebase:
    It is a alternative to merge cmd.

```
WELCOME@Sujjanth MINGW64 ~/task1 (main)
$ git rebase feature2
Successfully rebased and updated refs/heads/main.
```

14. Git status:
    Displays the current state of working directoy.

```
WELCOME@Sujjanth MINGW64 ~/task1 (main)
$ git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

nothing to commit, working tree clean
```

15. Git config –list –show-origin:

```
WELCOME@Sujjanth MINGW64 ~/task1 (main)
$ git config --list --show-origin
file:C:/Program Files/Git/etc/gitconfig diff.astextplain.textconv=astextplain
file:C:/Program Files/Git/etc/gitconfig filter.lfs.clean=git-lfs clean -- %f
file:C:/Program Files/Git/etc/gitconfig filter.lfs.smudge=git-lfs smudge -- %f
file:C:/Program Files/Git/etc/gitconfig filter.lfs.process=git-lfs filter-process
file:C:/Program Files/Git/etc/gitconfig filter.lfs.required=true
file:C:/Program Files/Git/etc/gitconfig http.sslbackend=openssl
file:C:/Program Files/Git/etc/gitconfig http.sslcainfo=C:/Program Files/Git/mingw64/ssl/certs/ca-bundle.crt
file:C:/Program Files/Git/etc/gitconfig core.autocrlf=true
file:C:/Program Files/Git/etc/gitconfig core.fscache=true
file:C:/Program Files/Git/etc/gitconfig core.symlinks=false
file:C:/Program Files/Git/etc/gitconfig core.editor=notepad
file:C:/Program Files/Git/etc/gitconfig pull.rebase=false
file:C:/Program Files/Git/etc/gitconfig credential.helper=manager-core
file:C:/Program Files/Git/etc/gitconfig credential.https://dev.azure.com.usehttppath=true
file:C:/Program Files/Git/etc/gitconfig init.defaultbranch=master
file:C:/Users/WELCOME/.gitconfig        user.name=sujjanth
file:C:/Users/WELCOME/.gitconfig        user.email=sujjanthbalaji@gmail.com
file:.git/config        core.repositoryformatversion=0
file:.git/config        core.filemode=false
file:.git/config        core.bare=false
file:.git/config        core.logallrefupdates=true
file:.git/config        core.symlinks=false
file:.git/config        core.ignorecase=true
file:.git/config        remote.origin.url=https://github.com/sujjanth/cognizance.git
file:.git/config        remote.origin.fetch=+refs/heads/*:refs/remotes/origin/*
file:.git/config        branch.main.remote=origin
file:.git/config        branch.main.merge=refs/heads/main
```