TASK - 1

I. Demonstrate minimum 15 basic Git command with explanation and screenshot.

1. To check the user details
- *git config user.name*
- *git config user.email*
- *git config --list*

```
Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git config user.name
MaheshKumarMK
Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git config user.email
maheshmkvb92@gmail.com

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git config --list
diff.astextplain.textconv=astextplain
filter.lfs.clean=git-lfs clean -- %f
filter.lfs.smudge=git-lfs smudge -- %f
filter.lfs.process=git-lfs filter-process
filter.lfs.required=true
http.sslbackend=openssl
http.sslcainfo=C:/Program Files/Git/mingw64/ssl/certs/ca-bundle.crt
core.autocrlf=true
core.fscache=true
core.symlinks=false
pull.rebase=false
credential.helper=manager-core
credential.https://dev.azure.com.usehttppath=true
init.defaultbranch=master
user.name=MaheshKumarMK
user.email=maheshmkvb92@gmail.com
core.autocrlf=true
color.ui=auto
merge.conflictstyle=diff3
core.repositoryformatversion=0
core.filemode=false
core.bare=false
core.logallrefupdates=true
core.symlinks=false
core.ignorecase=true
remote.origin.url=https://github.com/MaheshMKVB/Assignment_Task2.git
remote.origin.fetch=+refs/heads/*:refs/remotes/origin/*
branch.main.remote=origin
branch.main.merge=refs/heads/main
```

2. To create a git repository or re-initialize the existing git repository.
- git init

```
Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git init
Reinitialized existing Git repository in C:/Users/Dell/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2/.git/
```

3. Git branch commands

    a. To change from master to main
        - *git branch -m master main*

    b. To create a new branch, user1
        - *git branch user1*

    c. To switch to user1 branch
        - *git checkout user1*
        - *git switch user1*

    d. To delete the branch
        - *git branch –d user1*

```
Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (master)
$ git branch -m master main

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git branch user1

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git checkout user1
Switched to branch 'user1'

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (user1)
$ git checkout -b user2
Switched to a new branch 'user2'                                        Snipping Tool

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (user2)
$ git switch -c user3
Switched to a new branch 'user3'

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (user3)
$ git branch -d user3
error: Cannot delete branch 'user3' checked out at 'C:/Users/Dell/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2'

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (user3)
$ git switch user1
Switched to branch 'user1'

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (user1)
$ git branch -d user3
Deleted branch user3 (was 73b5b89).
```

4. To check the status of the repository or working directory and the staging area
   - *git status*

```
Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
```

5. To add changes from the working directory to staging area
   - *git add .*

```
Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git add .

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   Requirements.txt
```

6. To commit or save changes to local repository or committed area
   - git commit

```
Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git commit -m 'Modified the requiremnet.txt file'
[main a189b0a] Modified the requiremnet.txt file
 1 file changed, 1 insertion(+), 1 deletion(-)

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (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
```

7. To push our changes to the remote repository
   - git push origin main

```
Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$  git remote set-url origin https://github.com/MaheshKumarMK/Assignment_Task2.git

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git push origin main
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% (3/3), 283 bytes | 5.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/MaheshKumarMK/Assignment_Task2.git
   73b5b89..a189b0a  main -> main
```

8. To show the complete commit history in a repository
- *git log*
- *git log –oneline*
- *git patch*
- *git show <sha>*

```
Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git log
commit a189b0af4b2725702713bb5828b2b42aa0f05e61 (HEAD -> main, origin/main, origin/HEAD)
Author: MaheshKumarMK <maheshmkvb92@gmail.com>
Date:   Tue Oct 11 09:41:31 2022 +0530

    Modified the requiremnet.txt file

commit 73b5b89409bd91cbbfdd275b87e6300345beceeb (user2, user1)
Merge: aa85092 731f653
Author: MaheshKumarMK <maheshmkvb92@gmail.com>
Date:   Fri Oct 7 11:18:17 2022 +0530

    modified the colab2 conflicts

commit 731f6538062defc48f6894b5eaad437766675c9c
Author: MaheshKumarMK <maheshmkvb92@gmail.com>
Date:   Fri Oct 7 11:15:01 2022 +0530
```

9. To restore the changes done from staging area to working directory
- *git restore –staged <filename.ext>*

```
Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   Assignment_Task2
        modified:   Readme.md


Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git add .

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git restore --staged Readme.md

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   Readme.md

no changes added to commit (use "git add" and/or "git commit -a")
```

10. To merge the changes done by the branches to main branch
- *git merge <branch name>*

```
$ git add .

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (user1)
$ git commit -m 'user1 update - Updated the Requirements file'
[user1 0d8f4f2] user1 update - Updated the Requirements file
 1 file changed, 2 insertions(+), 1 deletion(-)

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (user1)
$ git merge user1
Already up to date.

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (user1)
$ git merge main
Already up to date.

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (user1)
$ git push origin main
Everything up-to-date

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (user1)
$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git merge user1
Updating ddd6391..0d8f4f2
Fast-forward
 Requirements.txt | 3 ++-
 1 file changed, 2 insertions(+), 1 deletion(-)
```

11. To update the local repository from the remote repository
- *git pull origin main*

```
Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (user1)
$ git pull origin main
From https://github.com/MaheshKumarMK/Assignment_Task2
 * branch            main       -> FETCH_HEAD
Updating 73b5b89..ddd6391
Fast-forward
 EMAIL_SLICER.py   | 2 +-
 Readme.md         | 2 +-
 Requirements.txt  | 2 +-
 3 files changed, 3 insertions(+), 3 deletions(-)
```

12. To make a copy of the repo in a new directory
- *git clone <connection_string/SSH_link>*

```
Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git clone https://github.com/MaheshKumarMK/Assignment_Task2.git
Cloning into 'Assignment_Task2'...
remote: Enumerating objects: 19, done.
remote: Counting objects: 100% (19/19), done.
remote: Compressing objects: 100% (13/13), done.
remote: Total 19 (delta 5), reused 17 (delta 3), pack-reused 0
Receiving objects: 100% (19/19), done.
Resolving deltas: 100% (5/5), done.
```

13. Fetch and merge – To update local repo from remote repo
- *git fetch origin main*
- *git merge origin main*

```
Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git fetch origin main
From https://github.com/MaheshKumarMK/Assignment_Task2
 * branch            main       -> FETCH_HEAD

Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git merge origin main
Already up to date.
```

14. To check the differences between files in two commits or between a commit and the current repository
- *git diff*

```
Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ git diff
diff --git a/Readme.md b/Readme.md
index 956b74c..77cb432 100644
--- a/Readme.md
+++ b/Readme.md
@@ -1 +1 @@
-This Python application file is to slice the valid email and to produce USER and DOMAIN name
\ No newline at end of file
+This Python application file is to slice the valid email and to produce USER and DOMAIN name.
\ No newline at end of file
```

15. Git ignore
- *.gitignore*

```
Dell@DESKTOP-R6PKA5K MINGW64 ~/OneDrive/Desktop/GIT Repo/Assignment_1/Python/Assignment_Task2 (main)
$ vi .gitignore
```