Mobile Computing

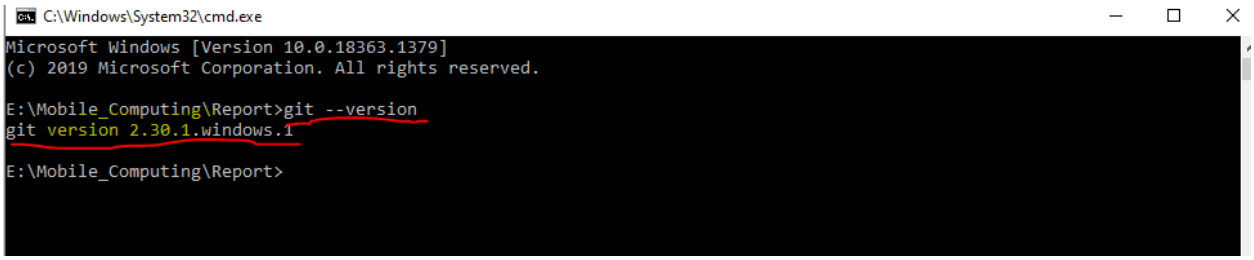
Ahtisham Ali

MCSF19M002

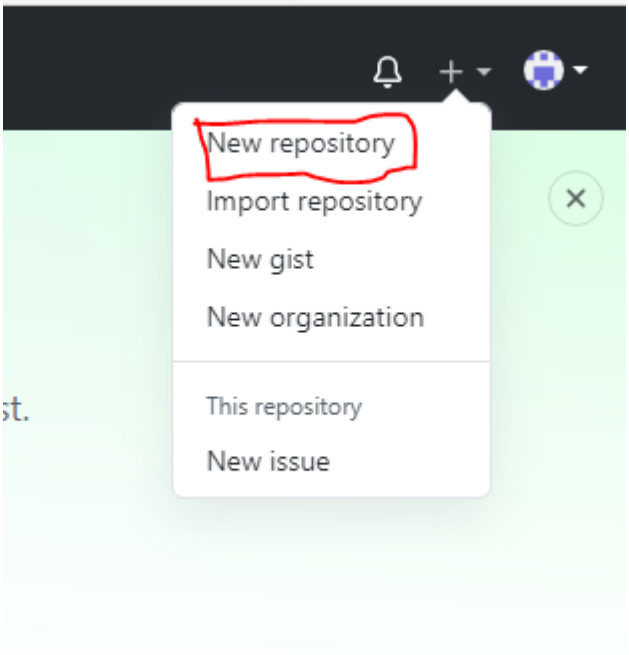
Introduction to Git & GitHub

Lecture 1-3:

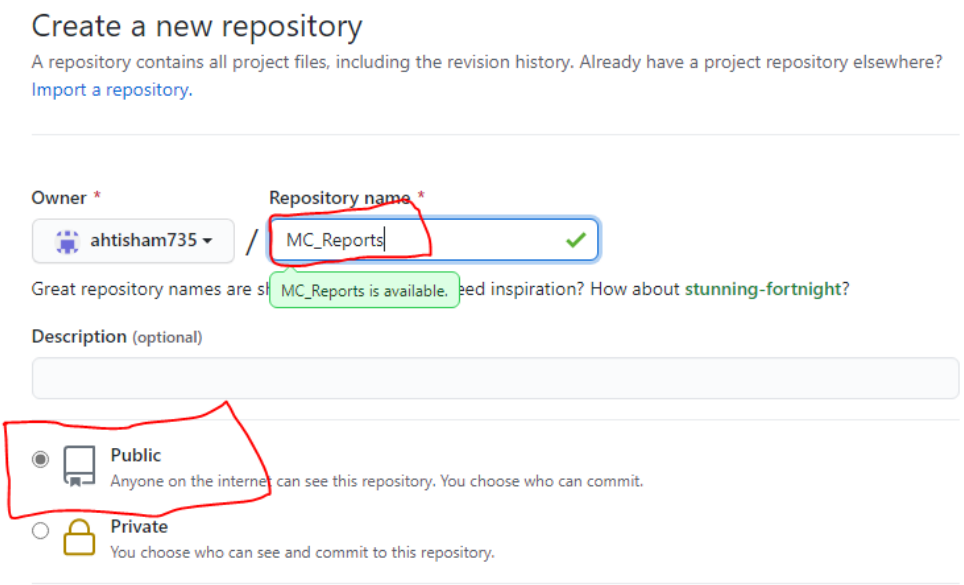
Git Installation confimation:



Creating a new repository on GitHub

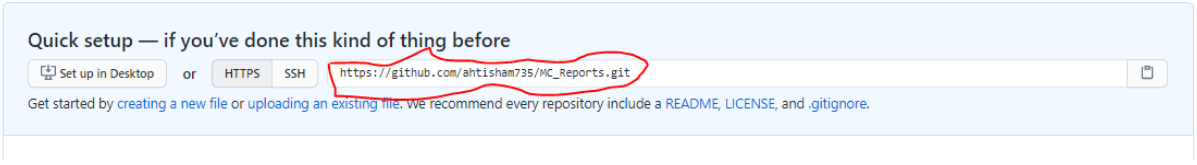


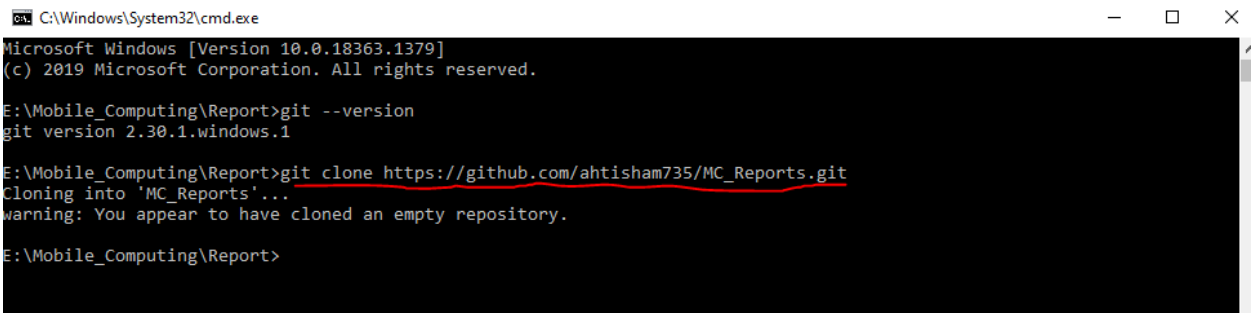
Choosing a suitable name and making it public:



Creating clone :

Coping repository link and execute “git clone url” in command prompt





Clone has been created

For uploading a file on Git from local machine, we need to perform following commands:

1:git add filename

It tells **Git** that you want to include updates to a particular file in the next commit. However, **git add** doesn't really affect the repository in any significant way—changes are not actually recorded until you run **git** commit .

```
E:\Mobile_Computing\Report\MC_Reports>git add champion.py

E:\Mobile_Computing\Report\MC_Reports>
```

2:git commit –m "Any message"

The **git commit** command captures a snapshot of the project's currently staged changes

The **git commit** command saves all staged changes

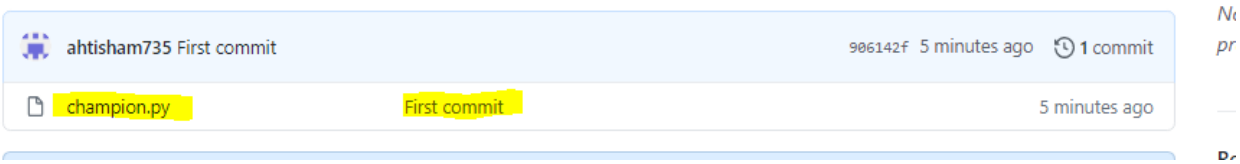
```
E:\Mobile_Computing\Report\MC_Reports>git commit -m "First commit"
[master (root-commit) 906142f] First commit
 1 file changed, 35 insertions(+)
 create mode 100644 champion.py

E:\Mobile_Computing\Report\MC_Reports>
```

3: git push

The **git push** command **is** used to upload local repository content to a remote repository.

```
E:\Mobile_Computing\Report\MC_Reports>git push
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 744 bytes | 186.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/ahtisham735/MC_Reports.git
 * [new branch]      master -> master
```

File has been uploaded on git, BRAVO!!



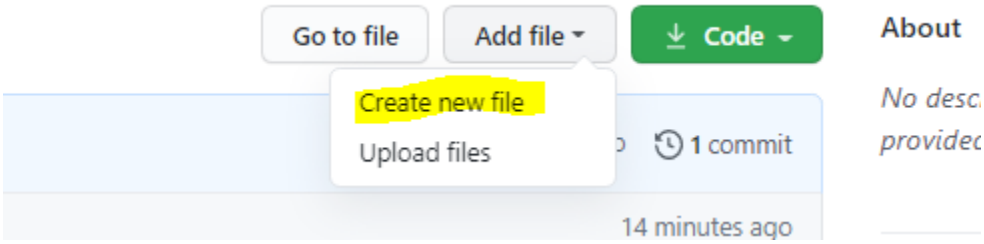
Creating/Updating file from Git:

We can create a new file or update an existing file from git.

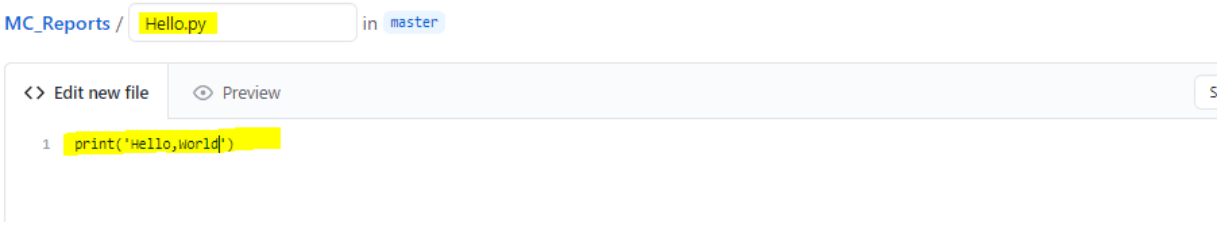
In order to reflect changes made on Git in local repository, we need

Run **git pull command**

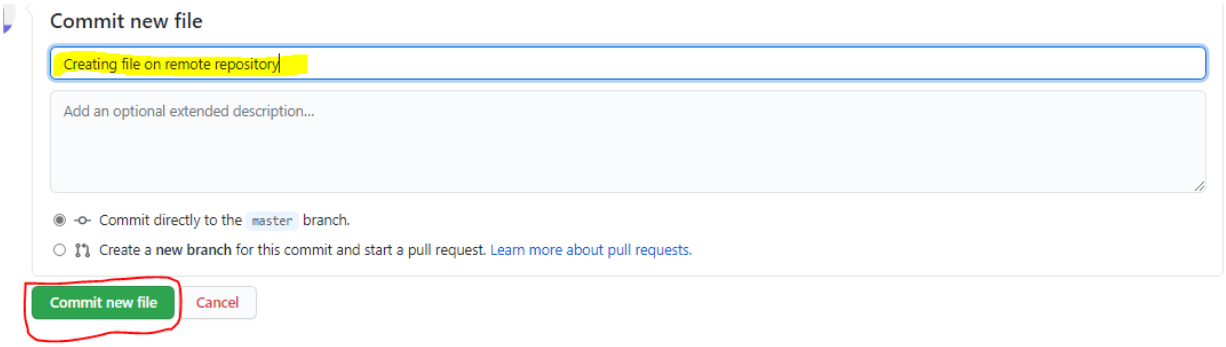
Creating a new file on remote repository:



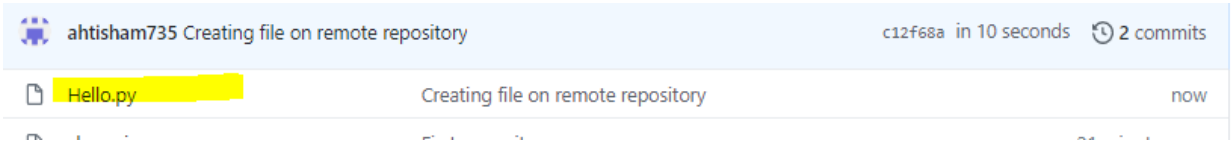
Name the file & making some changes:



Giving a message & commit the new file:



File has been uploaded :



Git Pull:

In order to reflect changes made on remote repository ,we run **git pull** command:

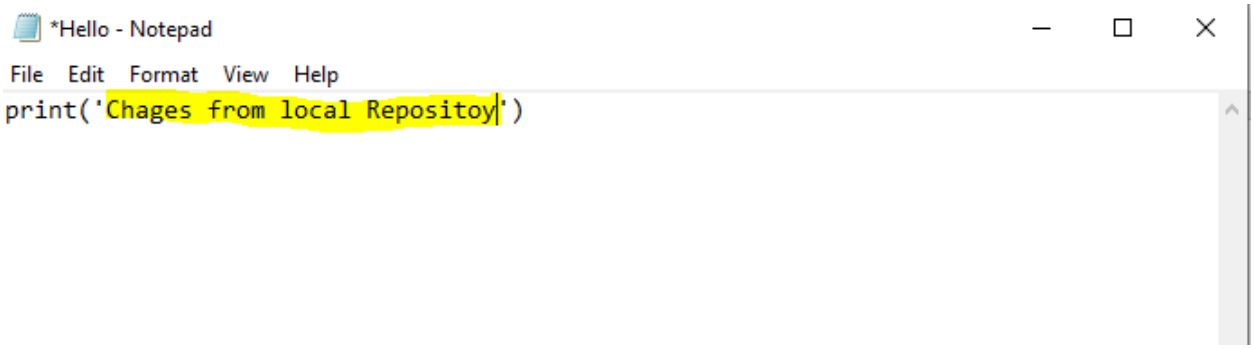
```
E:\Mobile_Computing\Report\MC_Reports>git pull
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 694 bytes | 3.00 KiB/s, done.
From https://github.com/ahtisham735/MC_Reports
   906142f..c12f68a  master     -> origin/master
Updating 906142f..c12f68a
Fast-forward
 Hello.py | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 Hello.py

E:\Mobile_Computing\Report\MC_Reports>
```

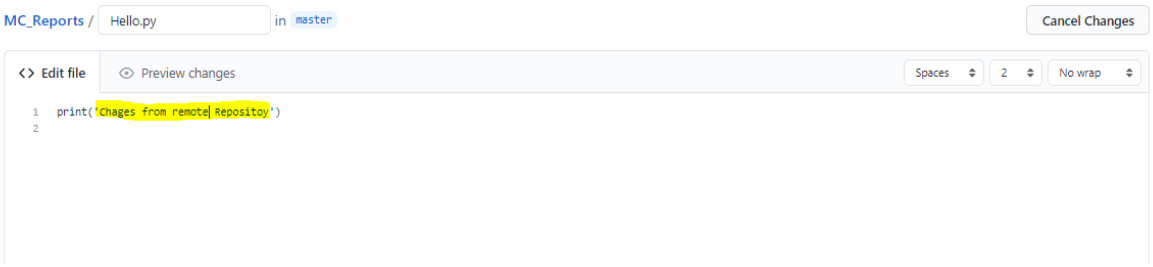
File has been pulled from remote: BRAVO!!

Merge Conflict:

A **merge conflict** is an event that takes place when Git is unable to automatically resolve differences in code between two commits. Git can **merge** the changes automatically only if the commits are on different lines or branches.

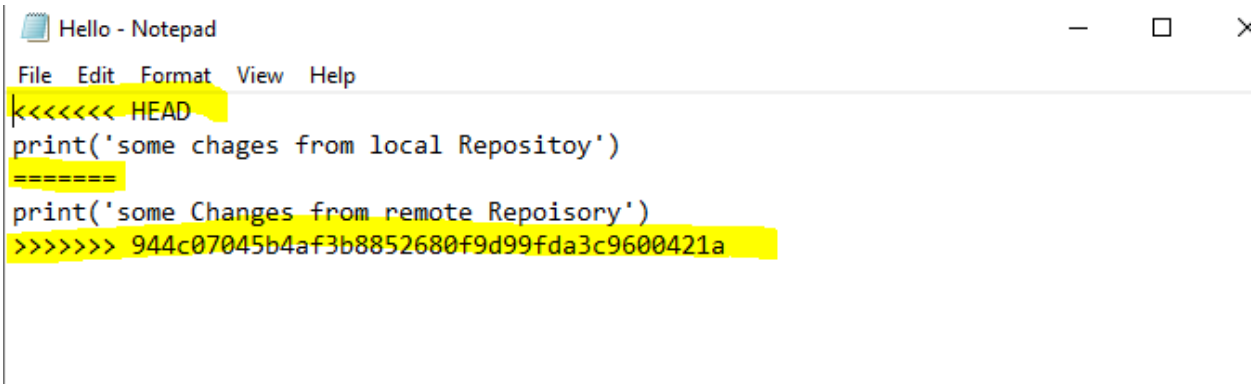
Let's change the Hello.py file remotely and locally in order to understand merge Conflict





Now if we try to push/pull the changes, we will be facing **merge conflict:**

```
E:\Mobile_Computing\Report\MC_Reports>git pull
remote: Enumerating objects: 8, done.
remote: Counting objects: 100% (8/8), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (6/6), 1.35 KiB | 1024 bytes/s, done.
From https://github.com/ahtisham735/MC_Reports
   c12f68a..944c070  master     -> origin/master
Auto-merging Hello.py
CONFLICT (content): Merge conflict in Hello.py
Automatic merge failed; fix conflicts and then commit the result.

E:\Mobile_Computing\Report\MC_Reports>
```



WHAT TO DO NOW??

To resolve this conflict, just taking the best of both worlds.

Commit the changes and push these.

```
E:\Mobile_Computing\Report\MC_Reports>git commit -am "Resolving merge conflict"
[master 73d350a] Resolving merge conflict

E:\Mobile_Computing\Report\MC_Reports>git push
Enumerating objects: 13, done.
Counting objects: 100% (13/13), done.
Delta compression using up to 4 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (9/9), 894 bytes | 99.00 KiB/s, done.
Total 9 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/ahtisham735/MC_Reports.git
   944c070..73d350a  master -> master
```

Merge Conflict has gone. Bingo!